MAY
8
1959

PETROLEUM WEEK

A McGRAW-HILL PUBLICATION

IPAA predicts that by early 1960 . . .

- Crude output will hit new high 11
- 'Unused' capacity will be tight 12

Importers win first rounds in courts 13

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Analog computer aids reservoir study 22

Canadian gas field sets fast pace 23

What can be done for women drivers? . . . 31

Waste heat boilers mean cleaner air 39

Indicator cuts pipeline commingling 42

Fall can't come too soon for sellers 50

Price 50 Cents

STEVENS RICE GS
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313 NORTH 1 ST
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A New Design for Radioactivity Logging

by SCHLUMBERGER

Schlumberger Radioactivity Logging Instruments have been completely re-engineered to give more hole data and greater accuracy.

- Extra large scintillation crystal signals clearly the location of possible oil reservoirs.
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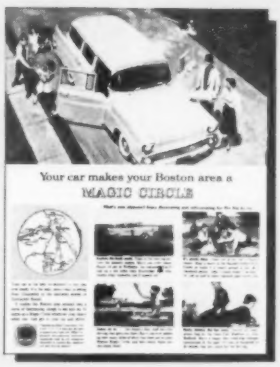
- Transistorized shock-resistant circuits give greater reliability of operation.
- Special neutron spacings are available for unusual hole conditions.
- Combination with Laterolog in simultaneous operation gives complete formation data from one trip in well.

Why not use the best — when it costs no more?

THE EYES OF THE OIL INDUSTRY®

SCHLUMBERGER

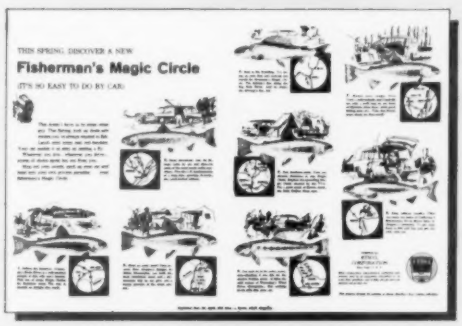
1. National magazine advertising. 10 full-color Magic Circle ads in LOOK and the POST, 8 in LIFE and 5 in SUNSET—concentrated during the heavy driving season.



2. Local Sunday newspaper advertising. Full-page, four-color ads in 27 major markets during June—in the "Sunday Magazine" section of local newspapers.

3. Public service newspaper features—on Magic Circle tours all over the country. These articles on pleasure driving are appearing in some 120 major newspapers.

4. Special "Travel Wear" fashion promotion to women. A seven-page ad on "what to wear while touring your Magic Circle." In the April issue of CHARM as a tie-in promotion with Saks Fifth Avenue stores across the country.



5. Special advertising to sportsmen. Four double-page ads in SPORTS AFIELD—two this spring on fishing Magic Circles, two next fall on hunting. The message: use your car to take you to new places . . . the places you've always wanted to try.

Now five Magic Circle activities... all aimed at expanding your market!

Here's the full scope of Ethyl's continuing Magic Circle program—now in high gear for 1959 on *five* important fronts. The aim: to expand your market for service station products by encouraging pleasure driving.

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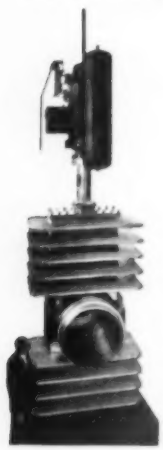
ANTIKNOCK COMPOUND
ETHYL CORPORATION

ETHYL CORPORATION
New York 17, N. Y.

Something Really New

GROVE CHRISTMAS TREE VALV-PAC

...The Wraps Come Off At Tulsa May 14



The Grove Christmas Tree Valv-Pac...a development of major significance for both oil and gas production service. It combines in a single, compact unit the major well head components. The Grove Christmas Tree Valv-Pac makes possible economies and efficiencies never before attainable.

It's another first by the Company responsible for more major advances in the control of air, gas and liquids since 1934 than any other manufacturer of valves and regulators in the world.

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INSIDE *Slant*

IMPORT DEALS ARE COMPLEX

Some of the exchanges on imported crude are becoming so complex that the companies no longer can figure them on a calculator. They now need a computer.

This isn't as ridiculous as it may seem. Not when you consider the various gravities and types of crude involved.

Every time there is a change in either the gravity or type of crude, each transaction must be refigured completely.

This is particularly true of the exchanges based on Venezuelan oil.

Often, the companies that have made the deals with domestic refiners do not produce sufficient quantities of the quality of oil involved in the exchange.

This forces them into the spot market. The end result is that they have to obtain what oil is available. And that is when the refiguring starts.

If this operation isn't complex enough, consider the inland domestic refinery that made an exchange on its import quota which involves the use of some idle offshore rigs that it owns.

But how do you run a rig through a computer?

LeRoy Menzing
EDITOR

OBJECTIVE •• OIL

If oil or gas production is your objective, your equipment takes on an unusual importance. In few operations do safety and economy mean so much. High financial risks are linked with the problem of keeping high pressures in place to protect not only the equipment itself but important reserves and trained personnel. This is the big reason so many successful operators COUNT ON CAMERON when the objective is oil. They know that only the best available pressure controls for drilling and producing (blowout preventers, valves, gauges, and relief valves–Xmas trees) will give them the best chance for success. If your objective is oil – no matter where you are looking for it – Cameron controls are available to help you succeed. World-wide sales representation is conveniently located to serve every major oil producing area of the free world.

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DEPT/Opinions

Views That Make News . . .

"Our 11,300 b/d import quota received under the new mandatory program . . . has enabled us to effect a substantial reduction in the cost of crude to our refineries.

"This new import program enables all domestic refiners to participate in the savings resulting from the importation of lower-cost foreign oil, whereas the previous so-called voluntary program, which operated under the duress of governmental quotas and sanctions, restricted the principal benefits to a comparatively few historical importers."

—R. S. BLAZER
Chairman of the Board
Ashland Oil & Refining Co.

"The wider spacing of development wells is the area in which the industry can accomplish the greatest economy in the immediate future."

—E. B. MILLER
Chairman
Oil Industry Conservation Forum

"The drive for wider spacing, elimination of exceptions, and the campaign for adoption of 100% acreage proration formulas are all parts of a concerted effort by the big operators to keep the little fellows out of the game."

—W. R. KOCH
Chairman, legal and engineering committee
Texas Independent Producers & Royalty Owners Assn.

"To the extent that price stabilization of domestic crude may restore [producers'] dynamic exploration and development of additional reserves, the objective of the [import control] program will have been achieved. But if shortsighted individuals attempt to use the restraint imposed on imports as an opportunity to increase prices beyond this point, [they] will endanger the program."

—F. H. MUELLER
U.S. Under Secretary of Commerce

"The St. Lawrence Seaway opening, while benefiting some, means an increase of low-priced imports into our marketing area."

—J. L. MAUTHE
Chairman of the Board
Youngstown Sheet & Tube Co.
Youngstown, Ohio

"With other phases of the U.S.-Canadian joint defense program following a continental pattern, it would appear to us that Canadian crude is as vital to the needs of the U.S. as its own domestic production. Therefore, we are most hopeful that in the very near future Canadian crude will be able to serve U.S. markets to the mutual advantage of Canada and the U.S."

—E. D. BROCKETT
President
British American Oil Co., Ltd.

"Should the current course of inflation continue, it can only have one result: a tremendous boom which, as corrective measures are attempted, would be followed by a serious depression and resulting stagnation of the entire economy."

—P. T. EGBERT
Chairman of the Board
Alco Products, Inc.
Schenectady, N. Y.

"The nation's recent losses in export markets are extremely disturbing. During 1958, for example, steel exports from the U.S. decreased 40%. Our own company has had a first-hand illustration of why this is happening. We can purchase from either Japan or Europe pipe to be delivered in the Argentine for $23 a ton less than the same pipe costs delivered at the mill in Pittsburgh."

—REESE H. TAYLOR
Chairman of the Board
Union Oil Co. of Calif.

. . . and Letters

Dear Sir:

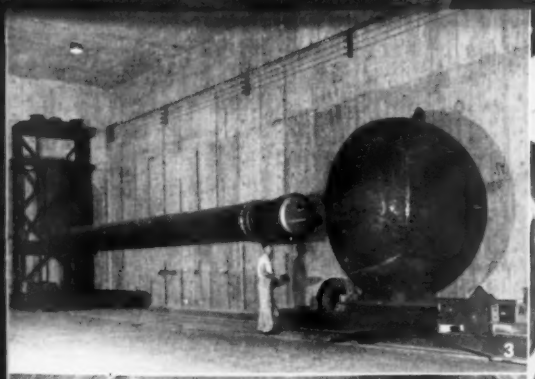
Methinks you have erred in the wording of your story . . . [which] has reference to the Texas Railroad Commission clarifying an original order made on salt-water disposal pits in four fields, Wharton County, Tex. [PW—Apr.3'59,p35].

Your story reports the commission "said that inspection wells will be required for disposal of salt water from earlier wells."

I believe the sentence would make more sense if the "sp" were changed to a "j" to read "injection wells."

GENEOS PETE COKINOS
Senior Petroleum Engineer
Oil & Gas Division
Beaumont, Tex.

PETROLEUM WEEK *will publish reader comments each week. Address letters to LeRoy Menzing, Editor,* PETROLEUM WEEK, *330 W. 42nd St., New York 36, N. Y.*



Craftsmanship Counts at CB&I . . .

Almost 70 years of specialization in the design, engineering, fabrication and erection of steel plate structures will build long and efficient performance life into your next CB&I-built storage or processing structure. Here's why:

CB&I Engineers From first contact with the customer through final testing, CB&I's general engineering staff supplies technical guidance to the CB&I team. Important coordination between fabricating, erection and testing of your structure is thus insured.

CB&I Fabricates The finest manufacturing facilities—including X-ray and stress relieving—backed by metallurgical laboratories and testing facilities second to none—are maintained in four strategically located and fully equipped fabricating plants.

CB&I Erects Skilled, responsible crews work with up-to-date equipment. Field X-ray and stress relieving equipment, backed by welding research laboratories, are an important part of their trade. Experience in a wide variety of metals, including stainless, nickel, aluminum and clad materials are also part of the service that has earned CB&I a *global* reputation for erecting on a *world-wide* basis.

These coordinated services are what you receive when you contract for a CB&I-built structure. CB&I customers have learned to expect and get top rated performance and maximum service life from CB&I *craftsmanship in steel*. Write our nearest office for details. Ask for the CB&I Bulletins on: *Special Plate Structures* and *CB&I Field Services.*

P73CB

1. 5-in. thick plate for reactor is fabricated at CB&I's Birmingham, Alabama plant.

2. Workman smooths seams on an assembled section.

3. X-ray machine for checking seam welds. Machines operating at 1,000,000 and 2,000,000 volts are used to completely inspect steel vessels as much as 10 inches thick.

4. 72-ton top section for reactor-regenerator is lowered into position under supervision of CB&I erection specialist.

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Read How This Producer SAVED $4,025.00

by buying a

JOHNSTON *Hydraulic* PUMPING UNIT

Remember there's a Johnston Hydraulic Pumping Unit to meet your application and you will save real money. When your well goes on Pump get a quotation from your Supply Store.

OIL PRODUCER

W. J. COPPINGER

UNION NATIONAL BUILDING
WICHITA 2, KANSAS

DRILLING CONTRACTOR

December 15, 1958

The Bevaird Supply Company
1015 Union Center Building
Wichita 2, Kansas

Attention: Mr. J. W. Youngling

Re: Johnston Hydraulic Pumping Unit - Model 9-25

Dear Mr. Youngling:

In connection with the completion of our Collingwood #1 in Haskell County, north of Sublette, Kansas, where we installed the Johnston 9-25 Hydraulic Pumping Unit, we have run through our books to determine approximately what we have saved by installing this unit instead of the conventional type unit.

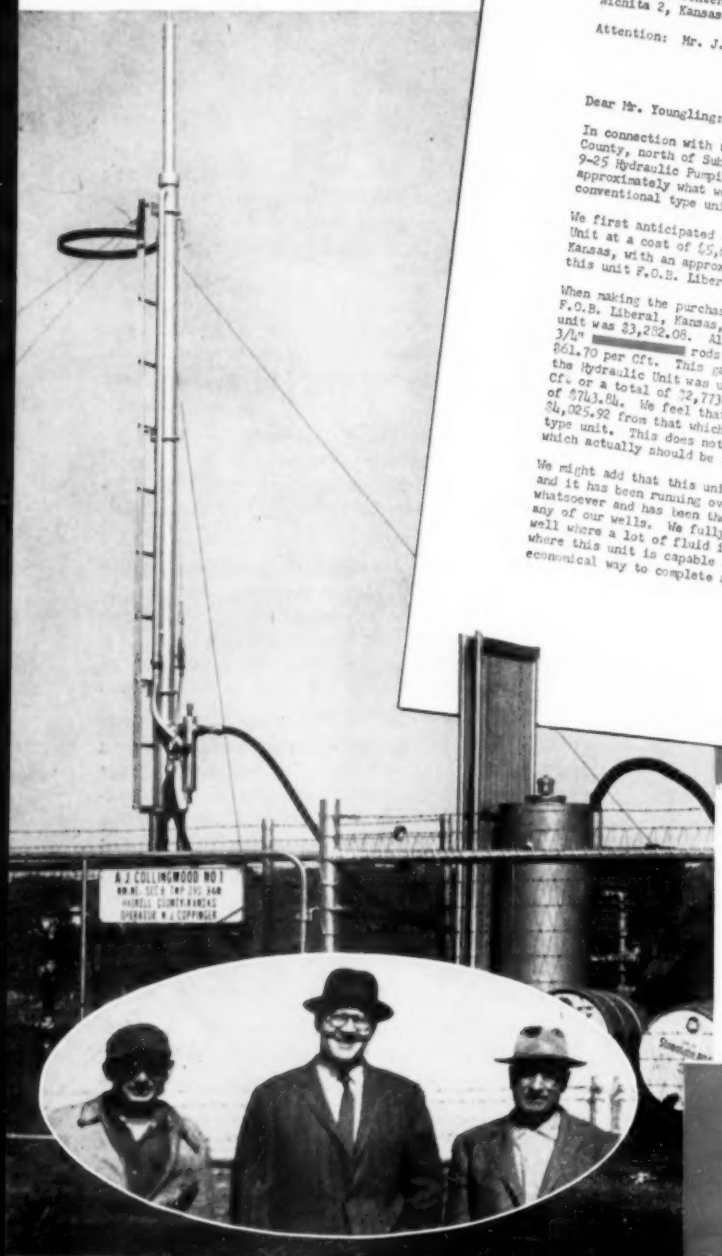
We first anticipated using a [redacted] Conventional Beam Pumping Unit at a cost of $5,632.61 - plus the trucking transportation to Liberal, Kansas, with an approximate cost of $300.00 - making a total cost for this unit F.O.B. Liberal, Kansas, of $5,832.61.

When making the purchase of the 9-25 Johnston Hydraulic Unit, our cost F.O.B. Liberal, Kansas, complete, was $2,550.53. Our savings on the unit was $3,282.08. Also included in our savings was the fact that 3/4" [redacted] rods (normally used in this area on 5700' wells) cost $61.70 per Cft. This gave us a total of $3,516.90. Due to the fact that the Hydraulic Unit was used, we ran 5/8" [redacted] Rods at $48.65 per Cf. or a total of $2,773.06, making a total savings on the sucker rods of $743.84. We feel that on this installation we saved a total of $4,025.92 from that which it should have cost by using the conventional type unit. This does not include the $1200.00 cost of a cement base which actually should be taken into consideration.

We might add that this unit is powered with a [redacted] Multicylinder Engine and it has been running over three months now and has caused us no trouble whatsoever and has been the most economical operating unit that we have on any of our wells. We fully recommend this type of installation for any well where a lot of fluid is not necessary to be handled. Up to the point where this unit is capable of handling the fluid, we feel it is the most economical way to complete a well in Kansas.

Sincerely yours,

W. J. Coppinger



The men in the picture are: (L to R) Mr. Harlowe, Pumper; Wm. Froelich, Jr.; and W. J. Coppinger.

Be sure to see these units on display at the International Petroleum Exposition

Sold through Selected Supply outlets.

ENGINEERED OIL TOOLS INC.

1710 BURNETT ST. — HOUSTON, TEXAS

P. O. BOX 1665 PHONE FA 3-0293

60-Second Summary / WHAT'S HAPPENING IN OIL

AT-A-GLANCE PETROLEUM WEEK Copyright

May 8, 1959

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Indications point to a broad court test of the import control plan. Appeals to the Oil Imports Appeal Board aren't proving successful, though two federal district courts have granted orders sought in individual cases. And two major company officials are urging higher tariffs on imports to replace present controls based on refinery runs. . . . p. 13

•

Women drivers are a problem to oil marketers. So far, few have made an effort to appeal to the ladies, but most admit the growing number of female motorists will require special attention at service stations. . . . p. 31

•

A final determination of gas producers' price regulation may be a long way off. The Federal Power Commission will take its time in studying Examiner Joseph Zwerdling's ruling on the Phillips case. The final say will come from the courts. . . . p. 18

•

The economic importance of oil to Mideast nations gives producing companies there a position of strength. Such strength may outweigh the impact of unstable politics in the area, providing a measure of stability. . . . p. 15

•

Domestic crude and gas liquids production will reach a new peak in early 1960, surpassing the Suez-emergency production of early 1957, an IPAA Committee predicted this week. . . . p. 11

•

A new cut point indicator can reduce commingling of products in a pipeline, by automatically signalling the arrival of product interfaces. . . . p. 42

•

Alberta's year-old Carstairs gas field is the scene of rapid development. A ready market and a strong price have spurred the building of a 33-mi. pipeline and a $3-million processing plant. . . . p. 23

•

Waste-heat boilers, originally designed to aid refiners' economics, are reducing air pollution. Recent improvements make CO-boilers attractive to California's refiners. . . . p. 39

•

Pipelining solids such as oil shale may become economical with partial processing in transit. The feasibility depends on future development of chemical reactants. . . . p. 43

•

Miscible phase displacement is increasing production at California's Midway-Sunset field. Two of the 14 producing wells in the pool were converted to inject 50,000 gal. of propane daily. . . . p. 21

1710 BURNETT ST. — HOUSTON, TEXAS
P. O. BOX 1665 PHONE FA 3-0293

Up to the Minute / SIGNIFICANT LATE NEWS

AT-A-GLANCE Copyright PETROLEUM WEEK

May 8, 1959

U. S. and Venezuelan officials hope to find a "middle ground" solution on imports. Venezuelan Minister of Mines Juan Pablo Perez Alfonzo officially told U. S. Cabinet officials late this week that he wants a basic change in the mandatory plan to a "country" quota (PW—May1'59,p19). And he has two other gripes: (1) He "deeply deplores" the Canadian exemption; and (2) he is disturbed over the "windfalls" to inland refineries, which "depress" Venezuelan oil profits.

The imports exemption granted Canada is causing a revision in plans in Ottawa. The government was set to release the final Borden Commission study, reportedly urging an Alberta-to-Montreal crude line. It will be held up now until "several weeks after June 1." Prime Minister Diefenbaker is going ahead with the government's bill to create a National Energy Board, urged by the first Borden report, but only to control gas exports and imports.

•

National Iranian Oil Co. has made a "major" gas-distillate discovery in Central Iran, close to the new area opened to bids this week (page 48). The test found gas and condensate between 8,400-586 ft. in Oligo-Miocene limestone.

•

Continental Oil Co. is expanding fast. Its latest move is to acquire Coastal Oil Co., a large eastern fuel oil marketer with 1-million bbl. terminal capacity in the New York Harbor area. Acquisition of a two-thirds interest in San Jacinto Petroleum Corp., a producer, awaits the latter's stockholder approval next week. Earlier this week, Continental leased Malco Refineries' Artesia (N. M.) plant and purchased its crude gathering system. Prior to that, it acquired International Refineries, Wrenshall, Minn., and Western Oil & Fuel Co., an Upper Midwest marketer.

•

Alaskan Gov. William A. Egan signed the state land act this week, limiting oil and gas leases to a 1-million acre maximum, of which only half can be in tidelands.

•

Extension of the Interstate Oil Compact Commission for another four years appeared certain this week. The Harris subcommittee recommended approval to the House Commerce Committee, which is expected to follow suit next week.

•

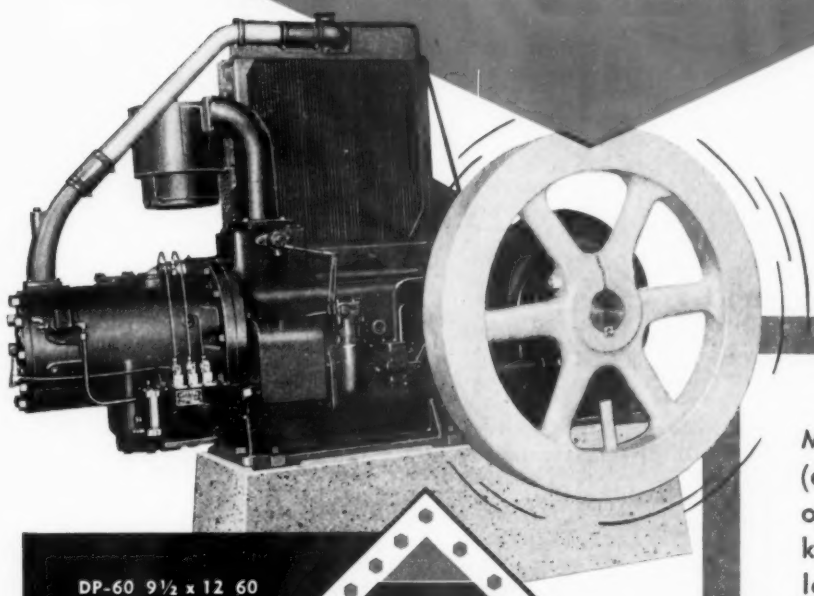
A change in Texas' ratable oil take law is dead for now. The Senate refused to take up a bill extending common purchaser requirements from a field to an "area."

•

Gulf Oil Corp. has sold its major interest in 1,600 proven and 1,600 undeveloped acres adjoining Alabama's Citronelle field. G. H. Jett, Shreveport, and Bart B. Chamberlain, Jr., Mobile, reportedly paid $6¾-million for the acreage, including 48 producers and 45 mi. of pipeline.

* $E = \frac{1}{2}(m_1 v_1^2 + m_2 v_2^2 + m_3 v_3^2) = \frac{1}{2} M_r v_r^2$

Maximum Horsepower at Minimum Operating Cost with AJAX ENGINEERED HEAVIER FLYWHEELS



DP-60 9½ x 12 60
Continuously
Usable Horsepower

AJAX

Maximum WR^2 effect (energy reserve) with optimum conversion of kinetic energy means longer trouble-free service . . .

MORE *long term horsepower per dollar investment.*
REALISTIC *horsepower ratings.*
HORSEPOWER *performance is always higher per dollar invested and your ultimate cost is lower.*
Simple maintenance.

AJAX GAS AND OIL ENGINES

* *Wettenbauer's analysis for flywheel performance*

AJAX also builders of
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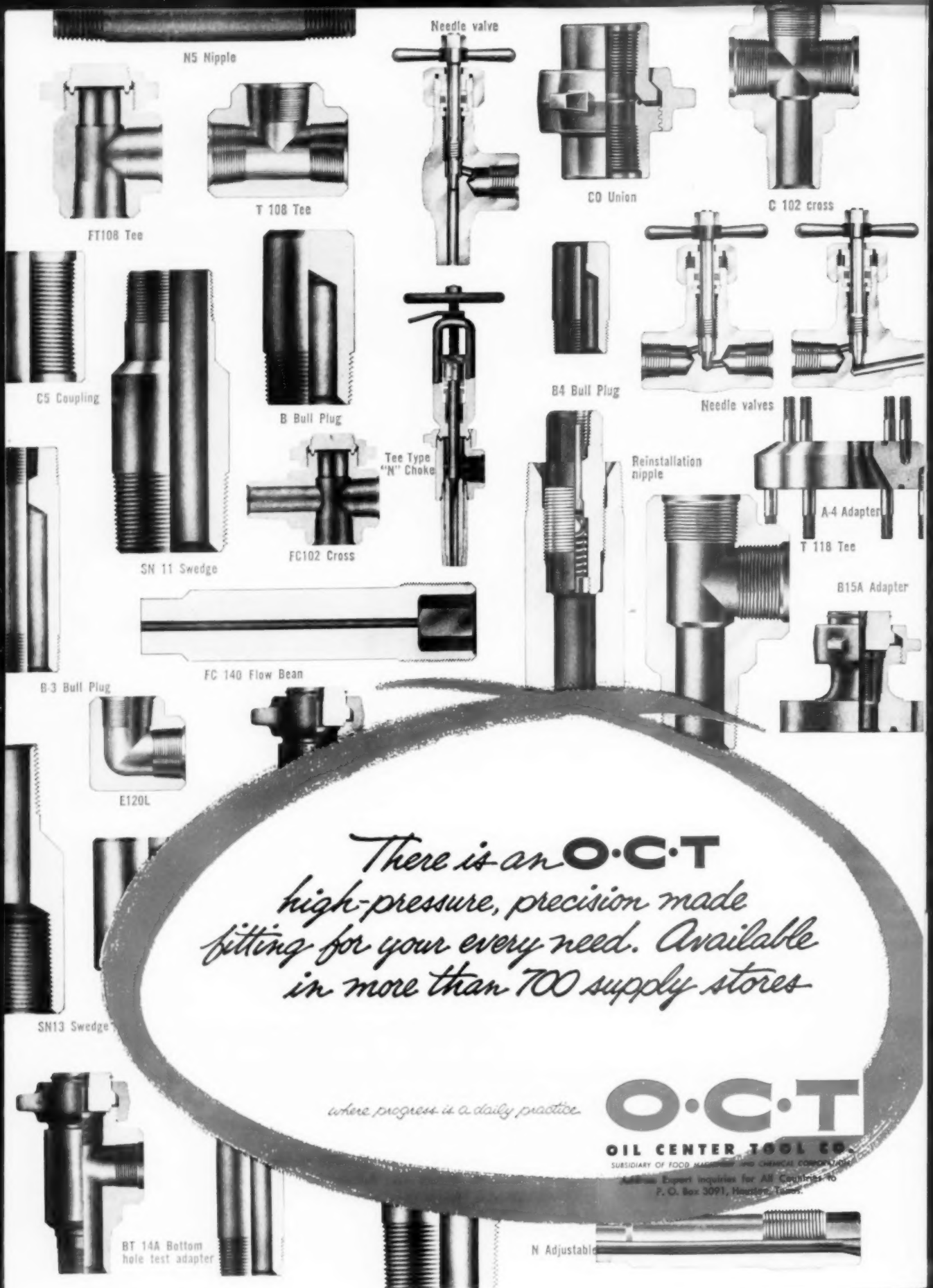
N5 Nipple
Needle valve
FT108 Tee
T 108 Tee
CO Union
C 102 cross
C5 Coupling
B Bull Plug
B4 Bull Plug
Needle valves
Tee Type "N" Choke
Reinstallation nipple
A-4 Adapter
SN 11 Swedge
FC102 Cross
T 118 Tee
B15A Adapter
FC 140 Flow Bean
B-3 Bull Plug
E120L
There is an O·C·T high-pressure, precision made fitting for your every need. Available in more than 700 supply stores
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where progress is a daily practice
O·C·T
OIL CENTER TOOL CO.
SUBSIDIARY OF FOOD MACHINERY AND CHEMICAL CORPORATION
Address Export inquiries for All Countries to P. O. Box 3091, Houston, Texas
BT 14A Bottom hole test adapter
N Adjustable

IPAA: Continued Upward Trend

To meet expected demand gain, domestic output of crude and gas liquids will rise steadily, setting a new peak in the first quarter of 1960 of 8.6-million b/d.

The business recovery so far this year has been "somewhat more rapid than originally anticipated," with the result that domestic demand for petroleum this year will run 5.1% over 1958, an IPAA committee predicted this week.

The Supply & Demand Committee of the Independent Petroleum Assn. of America estimated that domestic demand for the full year will average 9,532,000 b/d (table, below).

Total demand, including exports, the committee predicted, will average 9,786,000 b/d, up 4.8% over 1958.

The expectation is that the upward trend of business will continue into the first quarter of 1960, with a corresponding gain in demand to a new high.

The IPAA group, of which Serge B. Jurenev, assistant to the president and chief economist of Continental Oil Co., is chairman, predicted that total demand in the first three months of next year would run 10,890,000 b/d, a new record high for a first quarter.

It would represent a 2% gain over the peak established in the first quarter of 1959.

And, notably, in the committee's estimate for the first quarter of 1960 is an indication of some recovery in U.S. petroleum exports.

Exports have been in a general trend of decline for most of the recent years—turning up only in late 1956 and 1957, when the Suez Canal was closed down. But the IPAA committee expects them to show a 4% gain in the first three months of 1960 over the level of the first quarter of 1959.

For domestic producers, IPAA predicted a particularly optimistic trend. It said that both U.S. crude and natural gas liquids output would set a new high in 1959, and that in the first quarter of 1960 they would surpass the Suez emergency peak.

The forecast is that domestic crude output will rise steadily each quarter, averaging 7,335,000 b/d for the full year, a gain of 9.3%.

Total liquid hydrocarbons output for all of 1959, the committee predicted, will average 8,174,000 b/d, up 8.9% over 1958.

For the first quarter of 1960, the IPAA group predicted that domestic crude production would run 7,682,000 b/d, up 6.7%, and that output of all liquid hydrocarbons would average 8,562,000 b/d, a gain of 6.3% over the first three months of 1958.

Such levels would slightly exceed the previous peaks of U.S. crude and natural gas liquids production reached in the first three months of 1957, when emergency exports to Europe were at a peak.

The forecast of domestic production assumes that the mandatory import control program will result in limiting total imports into the U.S. in the last half of 1959 to 1.5-million b/d.

The total new supply "required" for all of 1959 is estimated at an average of 9,797,000 b/d.

The committee said that the larger gain in over-all supply, which includes domestic output plus imports, results from the fact that in 1958 140,000 b/d of total demand was met by inventory liquidation.

In 1959, the group said, "no significant change in the level of inventories is anticipated." The net result, according to the forecast, is that total stocks will accumulate at an average rate of 11,000 b/d throughout 195[illegible]

Crude inventories, now at 252-million bbl., will increase to 258-million bbl. by the end of the year, the committee said. And refined product inventories, now slightly above 500-million bbl., are expected to rise to 536-million bbl. by the end of 1959.

Refinery runs are expected to stay high—setting a new peak in 1959, and moving to an even higher level by the first quarter of 1960.

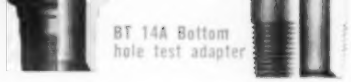
The committee expects that the low point of the current year will be set in the current quarter, at an average of 7,916,000 b/d, a level that many industry economists have warned will keep product inventories "excessively" high.

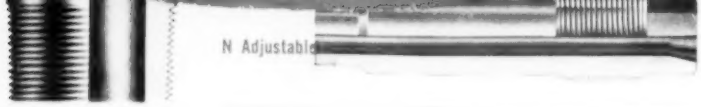
For the third quarter, the group expects runs to reach 8-million b/d again, pushing up to almost 8.3-million b/d by the fourth quarter and to nearly 8.6-million b/d in the first three months of 1960.

U.S. Supply-Demand Forecast

(Thousands of b/d)

	1st Q 1959	2nd Q 1959	3rd Q 1959	4th Q 1959	Year 1959	% Chg. '59-'58	1st Q 1960
DOMESTIC DEMAND							
Gasoline	3,745	4,220	4,270	3,985	4,056	+ 4.6%	3,825
Kerosene	466	170	195	415	311	+ 0.3	470
Distillate	2,637	1,325	1,220	2,235	1,852	+ 3.6	2,740
Residual	1,950	1,360	1,250	1,635	1,547	+ 6.3	1,850
Other	1,641	1,725	1,920	1,775	1,766	+ 8.5	1,750
Total	10,439	8,800	8,855	10,045	9,532	+ 5.1	10,635
EXPORTS							
Gasoline	55	70	70	65	65	—13.3	65
Kerosene	1	5	5	5	4		5
Distillate	35	50	50	50	46	—11.5	50
Residual	90	65	65	60	70		65
Other	64	70	70	70	69	— 8.0	70
Total	245	260	260	250	254	— 8.0	255
TOTAL DEMAND	10,684	9,060	9,115	10,295	9,786	+ 4.8	10,890
Stock Change	—446	+341	+467	—326	+11		—626
New Supply	10,238	9,401	9,582	9,969	9,797	+ 6.5	10,264
Runs to Stills	8,179	7,916	8,074	8,294	8,122	+ 6.8	8,598





Productive Capacity Gain to be Small

The rise in domestic productive capacity of all liquid hydrocarbons in the U.S. this year will be the smallest in years, with an increase of only 187,000 b/d now expected.

That was the forecast of the Productive Capacity Committee of the Independent Petroleum Assn. of America at this week's midyear meeting in Phoenix, Ariz.

The gain expected for 1959 compares with increases of 213,000 b/d in 1958, 273,000 b/d in 1957, 346,000 b/d in 1956, 534,000 b/d in 1955, and 550,000 b/d in 1954.

The committee defines productive capacity as the "average rate of production from existing wells that could be maintained for a period of from six to twelve months without further development and with no significant loss in ultimate recovery."

The IPAA committee limits its study to physical productive ability, making no evaluation of transportation facilities from producing areas.

The gain in crude productive capacity in 1959 will amount to 157,000 b/d, to a total of 9,813,000 b/d. Gas liquids productive capacity is expected to increase by 30,000 b/d to 960,000 b/d.

Based on the anticipated production of all petroleum liquids in early 1960, the "spare" productive capacity as of the first of next year will amount to about 2.2-million b/d, or about 20% of total capacity.

That would be a little below the ratio of most recent years.

Such an estimated level of unused capacity—available for an emergency—would compare with 2,501,000 b/d of spare capacity on last Jan. 1, nearly 2.7-million b/d at the start of 1958. But the spare capacity was only 1.8-million b/d at the start of 1957.

The only increases in productive capacity in the U.S. last year were in the Southwest and, particularly, in the Rocky Mountain producing areas (table).

Total productive capacity for all hydrocarbon liquids in the Southwest increased by 193,000 b/d to 7,027,000 b/d on last Jan. 1. For crude only, the Southwest's productive ability rose by 142,000 b/d during the year, with the gain for the past six years amounting to 28.8%.

The rate of gain in productive capacity in the Rocky Mountains, though, has been at a much sharper pace.

It is likely that, due to the present drilling pace in the Rockies, the area will continue to set the pace in productive capacity additions during 1959.

Crude productive capacity there increased by 45,000 b/d last year, with the over-all gain for the past six years amounting to 43.8%.

The long-term demand trend, which probably will rise at a lower rate than in the past years, will still require an active drilling program to maintain adequate reserve capacity, according to Morgan J. Davis, president of Humble Oil & Refining Co.

Looking at the next 10 to 20 years, Davis told the producers that demand is "likely to increase at a rate of only 3% a year." That, he said, "calls for a much slower rate of expansion of capacity than was considered normal in the past.

"Because of the slower rate of growth in demand and improved technology for producing reserves, the industry no longer needs to develop 1½ bbl. of gross new crude for each barrel produced," he said.

Crude production that can be counted on, from fields already discovered and from acreage under lease, is in the range of 70-billion bbl., Davis estimated.

"The industry should be able to develop 3-billion to 4-billion bbl. annually of gross new reserves of crude and gas liquids by drilling 40,000 to 60,000 wells a year," Davis said.

Such a drilling and discovery rate, he added, is "clearly within [the industry's] demonstrated ability."

But in order to attain those results, he warned "prices must reflect at least the effect of general inflation, percentage depletion must be continued at existing rates, and imports must not exceed a reasonable level."

The prospect that the domestic industry can develop during the next 20 years about three-fourths as much new oil as it has in its first century is certainly not a "gloomy outlook," Davis said.

The growth of natural gas demand in the next decade will require the finding of at least 17-trillion cu. ft. in 1968 "just to break even," according to Paul Kayser, president of El Paso Natural Gas Co.

What the U.S. Could Produce

(thousands of barrels daily)

	Jan. '54	Jan. '55	Jan. '56	Jan. '57	Jan. '58	Jan. '59	% Change '59 vs. '54
CRUDE							
East Coast	48	40	38	35	34	27	—43.7%
Mid-Cont.	1,325	1,473	1,532	1,560	1,549	1,542	+16.4
Southwest	4,952	5,282	5,690	5,990	6,225	6,367	+28.8
Rocky Mt.	466	547	569	585	625	670	+43.8
California	1,135	1,100	1,100	1,080	1,060	1,050	— 7.5
Total U.S.	7,926	8,442	8,929	9,250	9,493	9,656	+21.8
NATURAL GAS LIQUIDS							
East Coast	22	12	14	15	14	16	—27.3
Mid-Cont.	115	130	140	145	145	131	+13.9
Southwest	502	526	560	580	605	660	+31.5
Rocky Mt.	10	12	13	15	21	28	+180.0
California	95	98	98	95	95	95	
Total U.S.	744	778	825	850	880	930	+25.0
ALL PETROLEUM LIQUIDS							
Total U.S.	8,670	9,220	9,754	10,100	10,373	10,586	+22.0%

U.S. May Ease Tax On Foreign Income

A tax incentive to encourage American investments overseas is now given an even chance of congressional approval this year or next.

The particular proposal is one offered by Rep. Hale Boggs (D., La.) which would defer U.S. taxes on foreign earnings of American companies as long as those profits are not distributed at home.

When the proposal was first discussed late last year, the State Dept. and Commerce Dept. were quick to endorse it. The Treasury Dept. held back, however; only this week did Treasury officials decide to endorse the measure.

But now that the Treasury Dept.'s endorsement has been received, action on the stalled measure is considered merely an administrative problem in Congress.

The House Ways & Means Committee, of which Boggs is a high-ranking member, may start work on the measure before the end of this session.

The proposed incentive will fall short of what many oil industry spokesmen would like.

Nearly all of the large international oil companies—in common with most other U.S. firms operating abroad—have urged a general liberalization of U.S. tax laws as they apply to overseas investments.

Both State and Commerce—backed by the oil companies—have recommended that the U.S. give tax credit to companies that receive tax concessions abroad. That would prevent the U.S. from taxing the income of American companies resulting from concessions granted by foreign governments.

In many such cases, the oil companies argue, the U.S. tax amounts to a tax on capital improvements.

Is Import Plan Headed for Court Test?

Importers have done well in courts on individual cases, while appeals board results are poor. Demands are growing for a change to tariffs.

Federal courts are proving to be far more lenient on importers' appeals than is the Oil Import Appeals Board—at least for the present.

Two companies—U. S. Oil & Refining Co. and Texas American Asphalt Co.—have won first rounds in two federal district courts, obtaining temporary restraining orders against the mandatory control law.

The two first-round court victories by importers apply only to specific requests, but they could be significant enough to encourage others to seek relief through the courts.

The Federal District court at Houston late last week issued a temporary order to restrain the Collector of Customs at Houston from halting delivery of a cargo of Venezuelan asphaltic crude to Texas American Asphalt for use in its new Lacoste (Tex.) refinery.

Prior to seeking court relief to import the asphaltic crude, the company had been denied an allocation to bring in the oil by the Oil Imports Appeal Board, on the ground that it had no import history.

Texas American expects to place the Lacoste plant on stream May 12; it's scheduled to reach full capacity (2,000 b/d) by May 20. The company is also building a 5,000 b/d asphalt plant at Ennis, Tex., and J. A. Clements, president, says the company plans a third asphalt refinery at Tampa, Fla.

Only 400 b/d of domestic oil is available to the company, at $2.47 and $2.57 a bbl., he says, for its 2,000 b/d first plant. He adds that the imported crude costs $2.23 delivered at Houston, and $2.84 a bbl. at the Lacoste plant.

The hearing on a temporary injunction before the Houston Federal court is scheduled by May 11.

U. S. Oil & Refining Co. went to Federal District Court at Tacoma, Wash., and received a temporary injunction permitting it to import its 6,000 b/d allocation in the form of unfinished oils until the appeals board acts on its request. U. S. Oil asked the board to allow it to import unfinished products only, rather than 90% crude and 10% unfinished.

The Oil Import Appeals Board, meanwhile, is sticking by its tight rules. This week it denied 11 out of 12 appeals for changes.

Handing down the largest batch of decisions yet, the three-man government board reduced its favorable-decision average to a new minimum. In the 16 cases decided to date, the board has granted relief to only two companies.

The cross-currents on import views between the federal courts and the appeals board are bringing new demands for removing the mandatory control restrictions.

The presidents of two major companies this week urged changes in the method of controls. They want the government to switch from restrictions based primarily on refinery runs to tariffs.

H. S. M. Burns, president of Shell Oil Co., calling for a tariff control, predicted that the mandatory program "will fall of its own weight."

Speaking at the Independent Petroleum Assn. of America's mid-year meeting, in Phoenix, Ariz., Burns said a tariff penalty on petroleum imports would be a "much more practical way of slowing down imports."

The tariff route, he said, had worked well for other types of products.

"I think we should have a program something like this: You can import all the oil you want to. Then, at the end of the year, the excess above 10% of what you put through your refinery, you'd pay a tariff of, say, $1 a bbl."

Burns indicated that existing tariffs would be paid on crude brought in under the 10% ratio.

Earlier, Sun Oil Co.'s president, Robert G. Dunlop, urged the imposition of "appropriate" tariffs as a substitute for mandatory controls.

"Imposition of increased duties upon oil imports," Dunlop said, "At least would restore certainty and clarity to the [imports] situation.

"This method would place all sellers and buyers of foreign oil on an equal footing, and . . . would preserve freedom of action and freedom of opportunity for all wishing to engage in this type of business and willing to assume its risks."

Such a course of action, he said, is necessary to avoid federal "policing of oil prices."

In the decisions issued early this week, the Oil Import Appeals Board refused to hear arguments by the Jersey Standard group asking that each U. S. affiliate have its own import allocation.

Appeals by Standard Oil Co. (N.J.), Esso Standard Oil Co., Humble Oil & Refining Co., and Carter Oil Co. all were denied without hearings.

Jersey Standard, a holding company primarily, had protested that it was not a refiner and should not be required to divide its crude allocation among its subsidiary companies.

Esso, Humble, and Carter reiterat-

NEXT WEEK in Petroleum Week

What's ahead for the oil industry in its second century?

A Centennial Forecast by 50 industry leaders is that "the best years are still to come."

They see a bright new era for oil in petrochemicals, nuclear energy, and space travel. The transition will be gradual, but will bring dramatic changes along the way.

ed the complaint in separate appeals.

The board determined that the companies wanted to change the import regulations. "It is the view of the board," it replied, "that it may not entertain appeals which require a change of the regulations or the policy expressed in the Presidential proclamation."

Appeals by Texaco and Richfield Oil Corp. (L.A.) were denied because the board has no authority to act on finished products.

Texaco had asked allocations in Districts I-IV for 8,751 b/d of finished products and 29,464 b/d of residual fuel oil.

The board said it was powerless to determine whether the residual allocation method was discriminatory, as Texaco claimed.

Richfield had sought permission to import one cargo of finished gasoline into District V, but the board denied the appeal. Richfield said it purchased the cargo in February before finished product imports were limited.

The board also denied an increased crude allocation to Standard Oil Co. (Ind.). The company had asked for an increase in its 33,730 b/d crude and unfinished allocation in Districts I-IV. The board said the company's appeal was based on a contention that the method for computing allocations was discriminatory, and dismissed the appeal without a hearing.

Socony Mobil Oil Co.'s appeal was also denied because of the board's limited authority. Socony had challenged the application of the 80% guaranty formula to established importers. It also asked for allocations of residual fuel oil and finished products.

Appeals from Coastal Oil Co., South Hampton Co., and Car Care System also were denied by the board.

Texas Asphalt & Refining Co. was given a 1,600 b/d crude allocation by the appeals board.

The company built a 5,000 b/d refinery in Pasadena, Tex., capable of refining only heavy, asphaltic crude oil. The facility was closed during 1958 because the company had only a 2,000 b/d allocation under the voluntary import program and decided it could not operate economically at 40% of capacity.

Because the refinery had no runs in 1958, it did not qualify for an allocation under the mandatory import program. Creditors had threatened foreclosure proceedings on the refinery. This, the board agreed, would be an unusual hardship.

Atlantic Leads Oil 'Swaps'

Atlantic Refining Co. is continuing to be one of the most active "import" traders.

The company was involved in the bulk of 20 exchange agreements—trading domestic oil for imported—announced by the Oil Import Administration this week.

Of the previous ten trades announced (PW—Apr.24'59,p19), Atlantic figured in three, while Gulf Oil Corp. participated in six.

Like the first group of trades that were made public by the government, the newest trade agreements generally involve the swap of a little more than one barrel of domestic oil for a barrel of imported crude.

The trades involving Atlantic are with Oriental Refining, Great Western Producers, Malco Refineries, Louisville Refining, Indiana Farm Bureau Cooperative, Allied Materials, Howell Refining, Danaho Refining, R.J. Oil Refining, and Berry Asphalt. All are inland refiners; all are giving Atlantic Venezuelan oil for domestic.

The Atlantic Oriental trade involves 427 b/d of domestic oil to be supplied by Atlantic at Oriental's Alamosa (Col.) refinery. The transaction involves 1 bbl. of any of several Venezuelan crudes for Hogback (N.M.) crude on scale ranging from 1.02 bbl. to 1.4137 bbl.

Great Western Producers will trade 220 b/d of Venezuelan crudes on the ratio of 1 bbl. of foreign for from 0.8057 to 1.116 bbl. of North Texas distillate to be supplied by Atlantic.

Malco Refineries will exchange 1,320 b/d of several Venezuelan oils for from 1.009 bbl. to 1.3589 bbl. of New Mexico sour crude. The domestic oil is to be delivered to Malco's Artesia (N.M.) refinery, which this week was leased to Continental Oil Co.

Atlantic's trades with the other companies involve similar ratios of 1 bbl. of any of several Venezuelan crudes for from 0.8 to 1.3 bbl. of U.S. oil.

Penola Oil, a nationwide Jersey Standard marketing affiliate, is involved in five trades taking Venezuelan Oil for domestic

The company will exchange foreign crudes delivered to Esso Standard's Bayway (N. J.) refinery with S. D. Jarvis at Somerset, Ky., at the ratio of 14,560 bbl. of Venezuelan oil for 13,332 bbl. of Kentucky crude.

Penola is swapping 371,840 bbl. of Venezuelan oil for 351,448 bbl. of Kansas oil with Anderson Prichard. It is trading 38,080 bbl. of Venezuelan oil for 36,600 bbl. of Louisiana oil with Cotton Valley Solvents. Its swap with Rock Island Refining involves 180,320 bbl. of Venezuelan oil for 168,782 bbl. of Illinois crude.

And Penola's trade with Advance Refining is for 29,120 bbl. of Venezuelan oil for 26,831 of Illinois.

Sun Oil Co. will take 680 b/d of waxy, high-pour-point Bahia (Brazil) crude from Petroleum Specialties, Inc., in exchange for Illinois oil.

The trade is on the basis of "approximately" 0.86101 bbl. of Bahia for each barrel of domestic.

Socony Mobil Oil Co. will make two exchanges, one with Suntide and one with Derby Refining.

The Suntide exchange involves 4,140 b/d of foreign oil for domestic at a ratio 1 bbl. of foreign for 0.9382 bbl. of domestic, with "escalation depending on posted prices."

The Socony-Derby trade involves Oficina (Venezuelan) oil for Kansas crude, at the ratio of 1 bbl. of foreign for 1.069 bbl. of domestic. The total transaction amounts to 1,860 b/d.

Gulf Oil Corp. will take Kuwait oil to be imported by Sunray Mid-Continent in exchange for Oklahoma sour crude of approximately 35-gravity.

The trade, involving 5,000 b/d, will be at the basic ratio of 1 bbl. of Kuwait oil for 1.19 bbl. of domestic, to be varied depending on gravity.

Canada Capers With a Comma

Imperial Oil, Ltd., by any other name will still be Imperial Oil, Ltd.—at least for 40 years more.

That seems to be the moral of the company's current epic struggle to drop the comma from its name. The directors approved the change last February. And stockholders approved the change last week to Imperial Oil Limited.

Now all that remains for Imperial to do is to apply to the Secretary of State at Ottawa for letters patent under the Canada Company Act. If the application is approved, the comma will wither away after a short "transition period"—40 years.

PETROLEUM COMMENTS

By Wanda M. Jablonski

Cairo Congress: A Note of Stability

CAIRO—From the West's standpoint, the first Arab Oil Congress here underscored one significant point:

In contrast to the political instability of the Middle East, the underlying economic situation with respect to Western oil concessions is one of considerable strength, and even a measure of stability.

The position of the oil companies is relatively strong not because of any political power—they have little, if any, such influence, and their Western affiliation can hardly be said to improve their popularity.

Their position is strong simply because of their overwhelming economic importance to the region.

And it is evident that the Middle East governments themselves recognize it.

Even in Iraq, for instance, where the Communists have made increasing gains, the government is still behaving in a conspicuously correct manner to Iraq Petroleum Co. The Kassem government may be pressing IPC for relinquishment of acreage and other changes, but it has made no demands for changes in profit sharing or other basic terms of the concession contract. In fact, Kassem has gone out of his way to stress Iraq's need for IPC's cooperation and the oil revenues it provides.

The same attitude was also clearly evident among the Arab delegates at the Cairo oil meeting.

There was widespread recognition that Arab oil has little value without the markets of the West; that the oil concessionaire companies control most of the outlets where Middle East oil must be sold; that there are no alternative markets of sufficient size; that Russia as a net exporter of oil is of little potential aid and is perhaps a potential threat to Arab markets; that the oil oversupply is so great that the world could easily take the interruption of oil exports from any one or two Middle East countries in stride; and that all things considered it would be folly at this time for an oil producing nation to embark on a policy of expropriation or of too abrupt a use of pressure.

* * * *

To many Westerners, their experience at the Cairo oil sessions also suggested another point:

Arab technicians with knowledge of oil operations tend to be considerably more moderate and realistic in their approach to oil than the press or the local political oratory would suggest—so that oil companies, by speeding training of Arabs into positions of responsibility, are thereby perhaps also increasing their basic stability.

This was nowhere better illustrated than by the Congress' reaction to a paper presented by an American legal advisor to the Saudi Arab Government, expounding the thesis that a sovereign government had the right to abrogate its oil contracts whenever it was to its interest to do so.

While this was promptly headlined in some American papers as an "Arab challenge to Aramco" and an "Arab policy statement," the Congress itself quickly made it clear that nothing could be further from the truth; that the author, in fact, was speaking only for himself.

When the paper was thrown open to discussion from the floor, not a single Arab spoke up for it, and it was publicly attacked by Arabs and Westerners alike.

Samples: A Lebanese declared, "It would be a sad day for the Arabs when we break our contracts"; an Egyptian delegate pointed out that all oil contracts today provide arbitration clauses which should be abided by; a Libyan government spokesman declared, "Libya believes in the sanctity of freely negotiated contracts and will honor them."

And to dispel any lingering doubt, the paper was conspicuously omitted from the final list of resolutions of "general agreement" adopted by the Congress at its closing meeting.

The only other "hot issue" reported by the general press turned out to be a mistake in translation. At the opening session, Mohammed Salman, secretary general of the Oil Congress, was quoted as issuing an Arab demand for "revision" of the 50-50 oil contracts. Later, it turned out that his actual Arabic remarks were a mildly phrased proposal that oil companies "restudy" their agreements to rid them of any provisions "which make Arabs feel their rights are infringed or that they are receiving less than their fair share." Revision of basic contracts was never mentioned during the entire Congress proceedings.

* * * *

All this is not to say, of course, that Arabs do not want changes in oil terms. Naturally they want more income from their oil, and equally naturally they want a greater say in and control over the oil industry.

It would be complacent indeed to overlook the one strong theme that ran through the Congress sessions, and was highlighted in its final recommendations: a demand for increasing Arab participation in the running of the oil companies.

The conference represented the first Arab effort to think collectively about oil. The long-term goals for which they are pressing were made clear; but it was also clear that they recognize their dependence on Western outlets sufficiently not to wish to apply that pressure too violently.

First Quarter Earnings Soar Over '58

Riding high on the wave of general economic recovery, earnings for the first quarter rose sharply above a year earlier for most oil companies.

Over half of the majors had reported by this week, and each had chalked up income hikes for the quarter. Some were enormous (table).

Tidewater Oil Co., using actual figures for January and February and estimates for March, reported a 900% increase in net income over 1958's first quarter. And Atlantic Refining Co. reported a 341.6% gain in net.

It was a record three months for some companies.

Sinclair Oil Corp. had the largest sales volume of any quarter in its history, with sales of all refined products topping 2-billion gal. for the first time. Cities Service Co. also announced that first quarter sales were a peak for that period.

Texaco Inc., with a 30% gain over 1958, said that its earnings were a record for any first quarter, and the second highest of any quarter for the company.

Company	GROSS INCOME (thousands of dollars) 1959	% Increase 1958-1959	NET INCOME (thousands of dollars) 1959	% Increase 1958-1959
Ashland	$ 7,488	66.4%	$ 3,933	59.5%
Atlantic	155,309	7.3	11,902	341.6
California Std.	370,535	2.5	57,597	0.3
Cities Service	.....	....	13,661	1.2
Continental	163,832	6.0	14,400	34.6
Gulf Oil	.....	....	66,673	9.9
Jersey Std.	2,018,000	6.8	167,000	14.4
Kentucky Std.	80,755	2.8	3,264	0.7
Ohio Oil	75,165	4.6	10,198	21.9
Ohio Std.	92,000	3.4	5,095*	18.0
Phillips	299,825	14.6	25,833	25.9
Shell	449,744	10.0	34,467	13.0
Sinclair	334,203	3.1	17,184	12.9
Skelly	68,814	7.5	6,695	11.3
Socony Mobil	.....	....	45,200	22.5
Sun Oil	202,344	20.5	11,227	81.8
Sunray	95,550	7.0	9,743	0.9
Texaco	.....	....	91,220	30.3
Tidewater	.....	....	8,000†	900.0
Union Oil	.....	....	4,890	11.3

*Does not include income from nonrecurring sale of assets.
†Includes actual net for January and February and estimate for March.

Most frequently cited as reasons for the increase in earnings were greater demand, higher prices for some products, and larger crude production.

Although prices for crude were generally depressed, those for refined products were higher, resulting in improved refinery profit margins.

Prices of light heating fuel in the first quarter ranged from 1/6¢ a gal. to 5/8¢ a gal. over 1958.

Commenting on prices as a factor in the upturn, Sinclair's chairman, P. C. Spencer, said. "While refined product prices in 1959 have improved somewhat over those which prevailed during most of 1958, they still do not reflect adequately the rising operating costs the industry has experienced in recent years, and are still below 1956 and 1957 levels."

Cost reductions and greater emphasis on marketing were the other primary factors that helped profits.

Both Phillips Petroleum Co. and Atlantic Refining Co. said that cost-savings programs had helped their profit margins despite a general wage increase in January.

And Gulf Oil Corp. said that its "vigorous cost-control program initiated last year . . . had begun to show definite results in this first quarter."

One of the reasons given for Tidewater's phenomenal increase was a stepped-up marketing program. And Sun Oil Co. placed "particular emphasis on custom blending" of gasoline. All of the Sun stations were converted to custom blending last year.

Most oil company officials predict that their earnings prospects for the rest of the year are bright, but that the big first-quarter margin over last year isn't likely to be continued.

One reason is that 1958 earnings, badly depressed in the first six months of the year, improved substantially in the last half.

A more important reason is that product inventories are now building up to what economists call dangerously excessive levels—levels that could cause price weakness for many products.

Residual Imports May Be Revised

The oil import program has undergone one major change—exemption for Canadian imports—and soon may get another: an expanded base period for residual fuel oil and other finished products.

The problem of treatment for Canadian oil had plagued the Administration throughout the late voluntary import program, as well as in the consideration of the present mandatory program.

Canada has long insisted that U.S. national security should be considered on a continental basis. The Canadians argued that oil shipped via pipeline to the U.S. from Canada was just as secure in event of emergency as U.S. domestic oil.

President Eisenhower has ordered an amendment to the import program exempting all oil brought into the U.S. by overland transportation. But the immediate effect of the exemption may not be much.

In early 1957, Canada's Trans Mountain Pipeline was transporting about 90,000 b/d to the Puget Sound area of Washington. But since then, tanker rates have dropped, and Middle East and Far East crude have gained a competitive advantage.

Canadian imports there recently were averaging only about 20,000 b/d, brought in mostly by General Petroleum. Shell Oil Co. will import 10,000 b/d starting June 1.

The Oil Import Administration, meanwhile, is preparing to shift the base period on allocations for residual fuel oil and finished product imports.

Import Administrator Matthew V. Carson, Jr., has sent new application

forms to all current holders of residual and finished allocations in anticipation of the next allocation period.

But Carson also sent forms to companies that imported during all or part of 1958. Residual and product imports presently are limited to companies that imported during 1957.

Carson asked for data from 1958 importers, he explained, "in the event that the base period for eligibility is broadened."

It may mean an 18-month eligibility period for residual and product importers. By adding six months to the present base period, the government would be able to satisfy some companies that have appealed.

Allowable imports of crude and unfinished oil into the West Coast probably will be reduced by about 10% on July 1 as a result of the Canadian exemption.

President Eisenhower tied the exemption for Canadian oil to demand in District V. Unless demand rises sufficiently to offset unrestricted Canadian imports, the level of crude and unfinished imports in District V probably will be cut from 211,000 to about 190,000 b/d.

Next major worry for the Administration is Venezuela's reaction to Canada's preferred position.

The White House said, in announcing the Canadian exemption, that further talks will be held with the Venezuelans concerning a "coordinated approach" to the oil problem.

Venezuela's Minister of Mines & Hydrocarbons, Dr. Juan Pablo Perez Alfonzo, was scheduled to confer in Washington this week.

Officials are hoping that increased imports of residual fuel oil and finished products—under an 18-month eligibility period—might calm Venezuelan fears. Much of the increased imports probably would come from Venezuela, officials say.

Imports from Mexico could also be exempt under the "overland" amendment. But the Mexican oil flow into the U.S. is negligible. And currently it's all by tanker.

A minor change in import regulations also allows small quantities of oil—for sample testing or analysis—to enter without a license.

At least one oil company had raised the issue of importing oil for testing. Under the import program, all imports—no matter what amount or for what purpose—required a license.

The Presidential proclamation now gives the Secretary of the Interior discretionary authority to determine what shipments are intended as samples.

What's New / IN THE INDUSTRY

Central States Petroleum Union, which lost to OCAW at one Indiana Standard plant, defeated the "national" union at another. CSPU last week won over the Oil, Chemical & Atomic Workers Union at Indiana's Casper (Wyo.) refinery in a National Labor Relations Board election by a margin of about three to one. Earlier in March, CSPU, which has had contracts at Indiana Standard refineries, lost a bargaining representation election to OCAW at the Sugar Creek (Mo.) plant.

•

The U. S. Public Health Service will investigate the oil industry's air pollution work. Dr. Leroy E. Burney, U. S. Surgeon General, ordered the study after his remarks belittling the industry's efforts drew protests from the American Petroleum Institute and the Western Petroleum Refiners Assn. Burney severely criticized the industry for a lack of cooperation on air pollution last week at a congressional committee hearing.

•

Three Canadian producers will build a line to move field condensate to the Trans Mountain Oil Pipe Line. Hudson Bay Oil & Gas Co., Pan American Petroleum Corp., and Canadian Fina Oil, Ltd., will build a 47.5-mi., 6-in. line to move between 12,000 b/d and 18,000 b/d of condensate from their jointly owned cycling plant in the Windfall field of west-central Alberta. The line will connect with Trans Mountain at the latter's Edson Station.

•

Crude prices in two areas are showing new strength. Pennsylvania grade crudes have been boosted 10¢ a bbl. by Joseph Seep Purchasing Agency of South Penn Oil Co., bringing the Bradford posting to $4.25 a bbl. Sinclair Crude Oil Co. increased its posted prices 5¢ a bbl. for Wyoming sweet crude and crude bought in Colorado and Nebraska. New top price for 40-44.9 gravity crude is $2.98 a bbl., with 0.2¢ gravity differential unchanged. Both moves were effective May 1.

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Another major oil company reportedly is planning to enter the solid fuels business. The major will enter the field the same way several other oil companies have—by acquiring a small firm specializing in solid fuels research.

•

Caltex this week indefinitely shelved plans for a new refinery in Britain. In withdrawing its application for permission to build a plant at Southhampton, Caltex said it would reapply when a "firm and reasonably imminent" construction date could be set. No. decision is expected for a couple of years.

•

Western Canada will soon have its first large-diameter pipe mill. Big Inch Pipe Corp., Ltd., will start construction on the $4-million project this month in the Ogden industrial area of Calgary. The mill will turn out pipe for transporting natural gas and oil in sizes ranging from 18 in. to 36 in.

•

J. L. Lenker, vice-president of British American Oil Co., Ltd., will become vice-president of Gulf Oil Corp. June 1. At that time C. J. Guzzo, Gulf's vice-president of domestic marketing, will become a senior vice-president.

Looking Ahead in Washington

McGraw-Hill
Washington
Bureau
May 8, 1959

The Federal Power Commission will take its time in deciding the Phillips gas case. Examiner Joseph Zwerdling's decision—that Phillips' gas sales should be priced on a cost-of-service basis—is lengthy. The issues involved are many and controversial. FPC has already demonstrated that it realizes the difficulties it is facing and that it doesn't plan to rush into a hasty ruling.

The commission has postponed for 60 days the deadline for filing exceptions to the examiner's ruling. Normally, only 20 days are allowed. But before the Phillips filing period expired, several companies and groups asked for more time. Now FPC has postponed the date for commenting on the examiner's decision until June 26. So far, no exceptions have been filed. Most parties probably will wait until shortly before the deadline. The "filing of exceptions" actually constitutes an appeal. So there is no doubt the examiner's ruling will be vigorously debated.

•

Some time after June, FPC will decide when it wants to hear oral arguments on the Phillips case. The Commission could consider the appeals without oral presentations, but most likely will hear the appellants in person in this case. The dates for the arguments, which usually require about two days, could be within a week or two after the filing of exceptions —or, more likely, several months later.

The commission's ruling may not even come this year. If there is a long time lag before the oral hearings, FPC's decision could likewise be delayed. The examiner took 15 months after evidence in the hearing was closed before arriving at a decision. FPC may be able to make up its mind in less time, but there is certainly a good chance that its decision may be delayed until 1960.

•

The importance of the Phillips case as a precedent-setter for regulating all gas producers will cause the commission to go slow. Commissioner Arthur Kline said as much last week at the TIPRO meeting in Dallas. And then, after a decision:

A final determination of the Phillips case by the U. S. Supreme Court may require years. No one familiar with natural gas regulatory problems doubts that the high court will have the final say on the case. And the case will be heard by a court of appeals first.

•

FPC members probably will be divided on the Phillips case. Commissioner Kline has indicated that he prefers an area pricing system to the cost-of-service approach (PW—May1'59,p15). From past statements, Commissioner William Connole may prefer using costs as a basis, and Chairman Jerome Kuykendall feels costs should not be left out altogether. Commissioner John Hussey favors as little regulation as possible and may agree with Kline that cost-of-service pricing is not an acceptable method. The "swing man" in the FPC decision may be Commissioner Frederick Stueck. Stueck's views more frequently agree with those of Kline than with the regulation-minded Connole. But the Phillips case is unusual in many respects and may change some voting habits. A split decision by the commissioners is assured.

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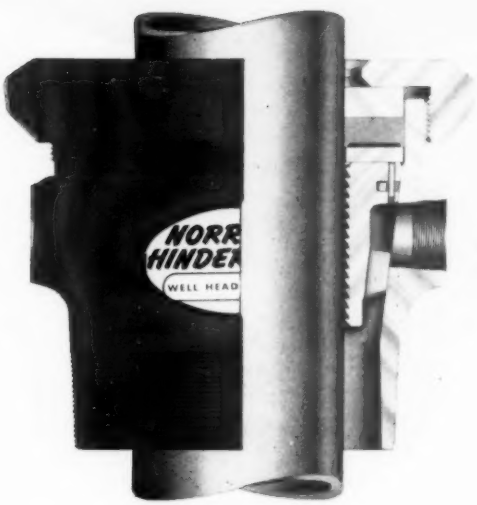

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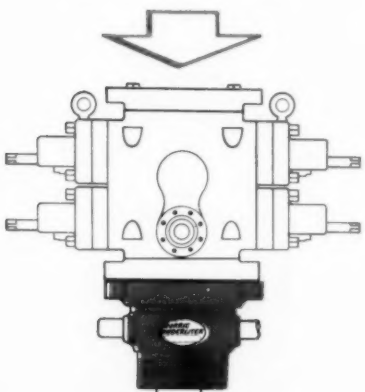

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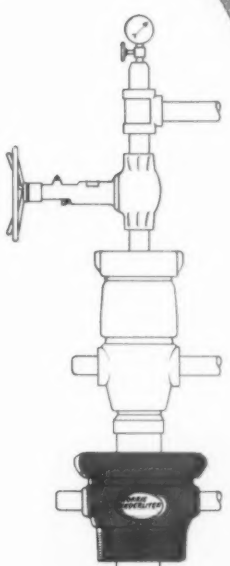

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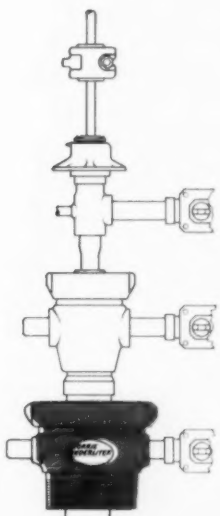

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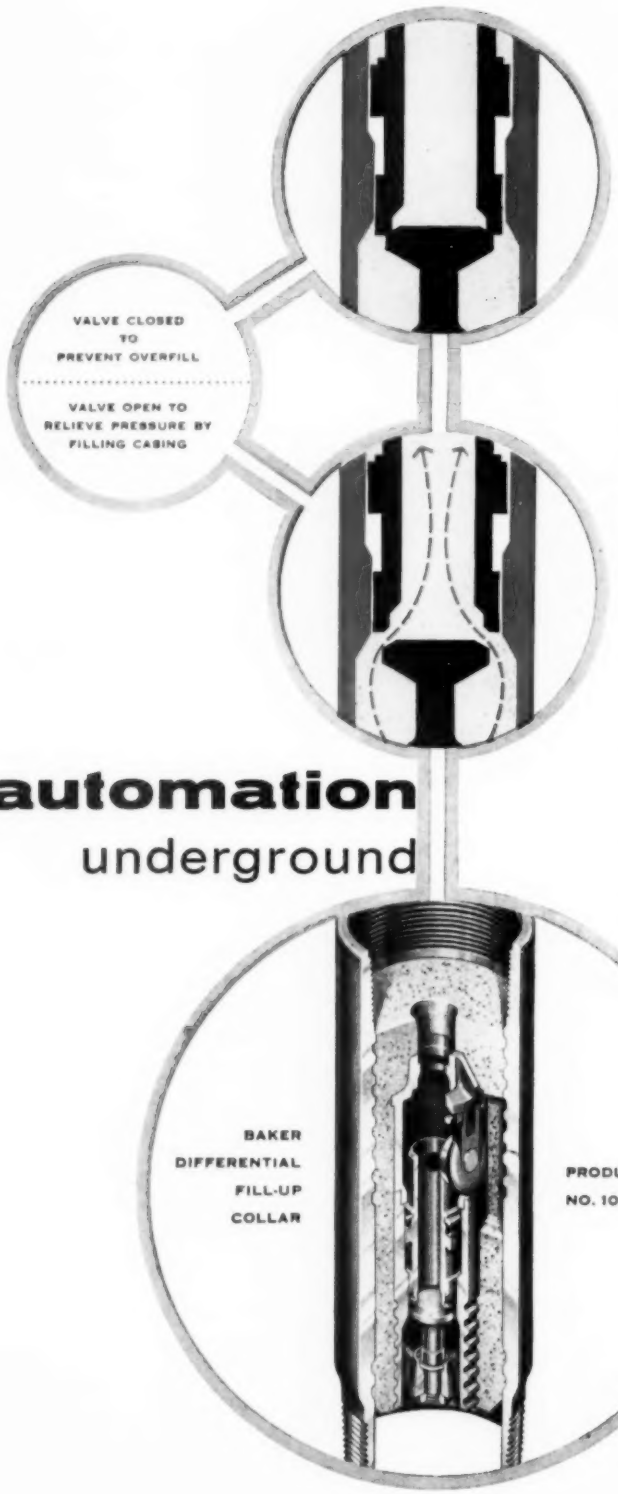
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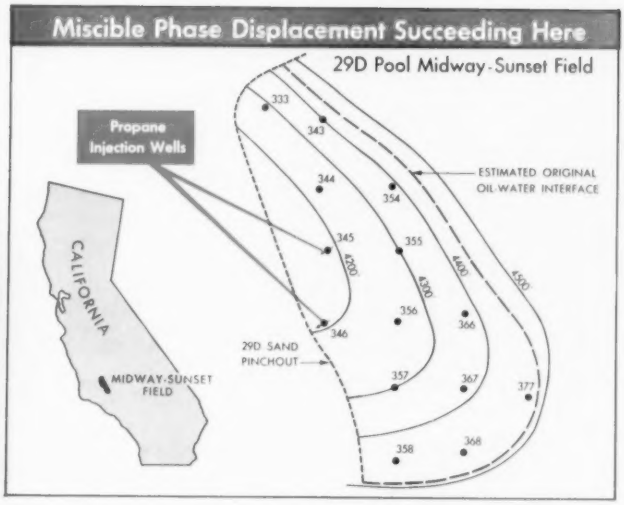


UNLOADING of propane for miscible phase project is checked by Stancal's Fred Kalenborn (left) and R. W. Donovan as . . .

California Propane Flood Looks Good

One of the first miscible phase displacement experiments attempted in California appears to be passing its tests with flying colors.

This is indicated by the initial results of Standard Oil Co. of California's project in the Midway-Sunset field.

The experiment has resulted in increased production, says a company spokesman, although complete figures are not yet available for release.

Present production figures for the pool where the experiment is being conducted are 760 b/d of oil, 1,051 b/d of water, and 1,019,000 cf/d of gas.

When the project was begun, production was 1,100 b/d of oil, 650 b/d of water, and 2,122,000 cf/d of gas.

These figures don't give a true comparison, however, because of the pool's normal decline, and because wells with high gas-oil ratios have been shut in.

Site of the experiment is the 29D pool, in Midway-Sunset field, Kern County, which was chosen for its size and location.

The pool, 2 mi. southeast of Taft, is in section 29-32s-24e. It involves an area of about 200 acres, which is not considered too large for the project.

It was first proved productive in March, 1955, by completion of Stancal's No. 377-29D, which found 31-gravity oil in upper Miocene sand at around 5,385 ft.

Fourteen wells subsequently were completed in the pool on ten-acre spacing. Initial production varied between 200 b/d and 300 b/d per well, with depths ranging from 5,100 ft. to 5,400 ft., and taking in an approximate 100-ft. interval of pay section.

The producing sand in the pool is a typical California Miocene sand—lenticular, with stringers of interbedded silt.

Permeability varies from 0.1 to 1,100 millidarcies. Reservoir temperature is 180F.

The pool's peak production came in the latter part of 1956, when an average of 1,900 b/d was reached. The decline has already begun when the miscible phase test was started.

Injectivity tests and conversion of two producing wells into injection wells was the only work done prior to initiation of the project.

Purpose of the injectivity tests was to determine the ease with which the propane could be injected. No other pilot work was done.

Since the operator planned to inject directly into the zone, preparation of injection wells was relatively simple. Two wells were selected for their structurally high positions.

One had been completed with a slotted liner, the other with a gun-perforated liner. In both cases the perforations were judged suitable for injection.

One well had been completed with a retainer, the other with a production packer. The production packer was replaced with a retainer to reduce the danger of leakage.

Additional equipment required by the project included two injection pumps rated at around 80,000 gal. per day, two unloading racks, and two headers for the injection wells.

The operator currently is injecting 50,000 gal. daily of propane, split evenly between the two injection wells.

Stancal has injected 6¾-million gal. of propane to date at an average pressure of 1,500 psi.

Injection began in one well in March, 1958, and in the other in October, 1958.

The propane is from various sources, the bulk of it coming from Stancal's El Segundo refinery, near Los Angeles. All of the propane is trucked to the site.

Of the 12 producing wells involved in the project, nine currently are producing, and three are shut in, either because of high gas-oil ratios or high water cuts.

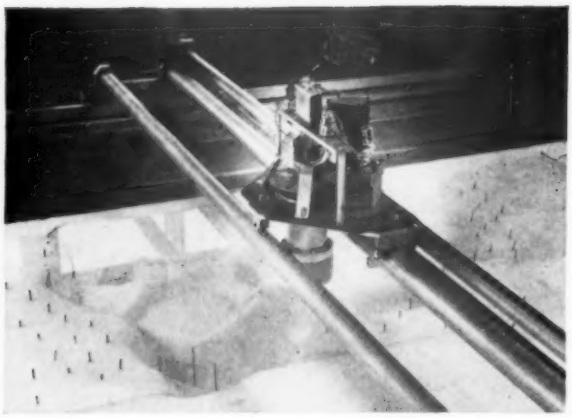
Two of the nine producing wells, those closest to the injection wells, are flowing. The others are pumped.

Although reservoir pressure has dropped, miscibility of the propane is still being maintained.

Current reservoir pressure is around 1,300 psi. Initial formation pressure was 2,260 psi.

It is still uncertain how far formation pressure can drop with miscibility of the propane being maintained.

Producing wells are checked regularly by chromatographic analysis for propane content.



AUTOMATIC PLOTTER in front of operator (left) charts movement of fluid through model reservoir (close-up at right) as . . .

Reservoir Problems Are Simplified

Sun Oil Co. engineers have developed an analog computer that makes life much simpler for them in reservoir engineering work.

The Sun machine doesn't vary much from others of its type in end results, but it does do the job much faster and more easily.

The computer is a potentiometric analyzer, which simulates (using an electrical system) a constant flow of fluids through porous media. On scale models, it produces electrical voltage distribution proportional to pressure distribution in an oil field reservoir.

Engineers use the analyzer information to select a production method that will give the optimum recovery of oil. This involves determining new well locations, producing rates, injection well locations, and injection rates.

The volumetric sweep efficiency determined in the model, together with displacement efficiency calculations, permit the engineer to estimate closely the total oil that will be recovered and the time it will take.

The time saved in working out reservoir problems is the prime advantage being claimed for the Sun unit.

L. C. Laue, head of Sun's potentiometric analyzer section, estimates that a research problem can be solved more than ten times as fast as in less advanced machines.

The time required varies according to the complications involved and the variables sought. Studies made by Sun have varied in length from a single day for a simple reservoir problem up to several weeks for extremely complex problems.

The big factors behind the machine's ability to save time are the automatic devices for plotting reservoir fluid movements and integrating them as a function of time.

This enables the reservoir engineer to determine location of an injection front (gas-oil or water-oil contact) at any given time in the future operation of the field.

And because of the automatic plotting and integrating, the only calculations the engineer must make are the integrating constants.

The analyzer performs the complicated jobs of plotting and integration through three sets of servo mechanisms.

These are the tank table which holds the model of the reservoir, the plotter, and the driver. The automatic plotting devices consist of a system of potentiometers and servo motors.

In one of the three units—the tank table—a measuring unit traces the flow of fluid in the reservoir model and transfers the information to the plotting unit.

At the same time, voltage distribution and gradient measurements picked up by the detection system in the measuring unit, which hovers over the tank table model, are fed to the driver unit.

Current is withdrawn from the producing wells in the model, while injection wells and probable sources of natural influx have input current.

The current withdrawals cause a voltage potential distribution within the model. Lines connecting all points of equal voltage in the model are analogous to lines connecting points of equal pressure in the reservoir.

Gradients existing due to voltage distribution may be scaled to movement of fluids through the reservoir.

The faster the flood front moves, the faster the machine moves.

After receiving the information from the measuring unit, the driver unit determines the velocity and direction of the plotter unit, and the position of the measuring unit on the tank table.

In actuality, the plotter controls the measuring unit, although depending on it for the signal.

This dependence of the units on each other results in an automatic, continuous tracking of voltage induced in the tank.

By manipulating production and well location, the flooding front can be controlled and maximum sweep efficiency obtained on the model, says Laue, mainly through a trial-and-error process.

Another task performed by the Sun machine is the automatic cutting of a field model.

Models are cut out of Styrofoam, which, although porous, does hold water.

A block of Styrofoam is placed on the tank table while an isopachous map is placed on the plotter, which in this case is operated manually.

The measuring unit of the tank table becomes a slave unit in this operation, and as the isopachs are being traced on a map, they are cut into the Styrofoam.

A copper wire, which takes the place of a detector in the measuring unit, cuts or actually melts the lines in the Styrofoam.

After the isopachs have been cut, copper rods representing wells are inserted into the model in the same relative position as they are in the field. The Styrofoam is then filled with an electrolyte, the amplifiers are connected, and the model is ready for the problem to be run.

New Canadian Gas Field Develops Fast

Development is moving at a fast pace in Alberta's year-old Carstairs field, where proved reserves from four gas wells has spurred the building of a 33-mi. pipeline and a multi-million-dollar processing plant.

These developments, plus discovery and development of the field itself, have all taken place in the past year.

The Carstairs field has been labeled by its discoverer, Home Oil Co., Ltd., as one of the best finds in Canada during 1958.

A ready market and a healthy price agreement are two definite factors behind the push.

The gas is contracted to Trans-Canada Pipe Lines, Ltd., at 13.25¢ per Mcf., with escalation of ¼¢ each year "for several years."

This is a sizeable jump over earlier contracts between Home and Trans-Canada, which call for 10.25¢ per Mcf. for Atlee-Buffalo field gas, and 10¢ per Mcf. for Nevis field gas.

The gas will be fed into Trans-Canada's 2,290-mi. line from Alberta to Montreal.

In addition, the Carstairs wells are each capable of producing several hundred b/d of condensate, says a Home spokesman. "With an expanding refinery industry less than 35 mi. away in Calgary, a ready market should be available for it."

Delivery of gas—already commited to Trans-Canada Pipe Lines, Ltd.—will start just as soon as the new pipeline connection from the field is completed.

Alberta Gas Trunk Line Co. already has awarded a construction contract for approximately 33-mi. of 16-in. line to run from the field to the vicinity of Torrington, to the northeast.

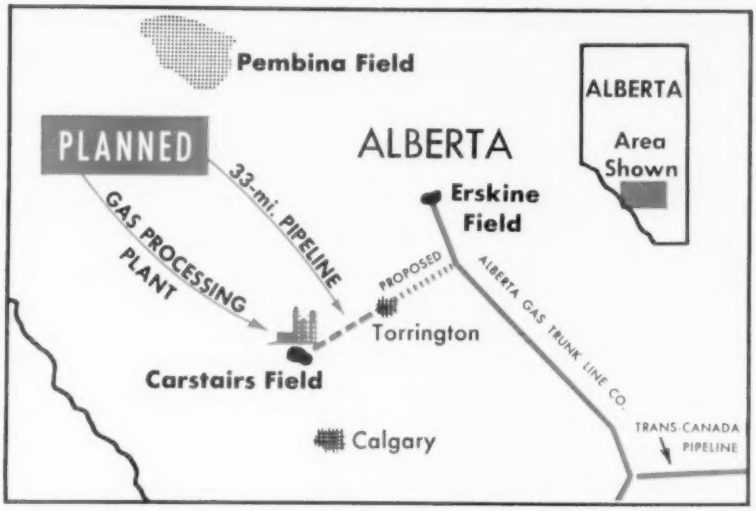
At this point, the gas will be transferred into the planned 30-in. line that will run from Torrington eastward to Alberta Gas Trunk's Plains Division main line. This line feeds into the Trans-Canada system.

Construction on the 33-mi. connection is expected to begin shortly.

The field—as it stands now—is being consolidated into a 12-section unit with reserves estimated at 550-billion cu. ft. of gas.

This reserve estimate is based on the four wells drilled in the area now being unitized.

The potential of these wells indicates that no further drilling is required in the unit. The various lease owners in the area being unitized are reported to be in the process of completing the unit agreement.



This unitization paves the way for construction of a gas processing plant to cost an estimated $3-million to $3.5-million.

Plans are well advanced for the construction of the plant. Hopes are to have the gas ready for market by early 1960.

The plant is estimated to be capable of handling 60 to 70-million cf/d. The Carstairs gas contains only ½% to 1% hydrogen sulfide, which is lower than most Canadian gas and makes processing much simpler.

This makes it even more attractive since the sales gained from the removed sulfur often are more than absorbed by the cost of removal, says Home.

And the field itself—its limits yet to be completely defined—is expected to grow as a result of outpost drilling.

A Home spokesman said no estimate can be made of the over-all extent of the field and its total reserves until drilling has been carried beyond the present 12 sections.

"Three or four wells might be drilled this season, and then we'll have a better idea as to size," he adds.

Amurex Oil Co. already has announced a location immediately north of the field discovery well.

Drilling in the Carstairs area is not difficult, and costs are lower than in some other Alberta fields.

It takes about 30 days to drill a Carstairs well, and completion cost runs about $140,000. Completion depths are around 8,200 ft.

From a standpoint of both time and money, wells in this area are generally more attractive than those in the foothills region of Alberta.

Most of the foothills gas wells cost anywhere from $300,000 to $1-million. And in some of the deep foothills wells, sulfur content is very high, necessitating elaborate extraction plants.

The field was discovered in April, 1958, after earlier drilling in the general area had resulted in one gas strike and two dry holes.

In 1951, Canadian Superior found gas on lsd 9-26-30-3w5. Subsequent drilling by Texaco led to the two dry holes.

Home Oil, operating on the theory the dry holes had outlined a field, plus encouragement from completion of the Trans-Canada line, started drilling last year.

The first try resulted in completion of a gas well in lsd 10-17-30-2w5 which had an open flow potential calculated at 44-million cf/d from the Elkton zone of the Rundle group.

This flow rate was substantially exceeded in follow-up successes. The net pay has varied from 55 ft. to 120 ft., and absolute open flow rates have ranged from 44-million to 107-million cf/d.

Drilling one well to each 640 acres, Home has successfully completed four out of five tries, the one dry hole being on lsd 11-27-29-2w5.

Home believes its dry hole limits the pool on the southeast, and that one of the Texaco dry holes marks the western limit.

Nearest production to Carstairs is found in the Crossfield and Harmattan-Elkton fields. Crossfield is about 15 mi. south, and Harmattan-Elkton about 10 mi. north-northwest.

When, Where to Use Automation?

Automation no longer is a "plaything for majors," but an economic, practical development that should be considered by all operators, large or small, says W. D. Cunningham, of Sun Oil Co.

The Calgary oil man notes, however, that this does not mean that automation is economical in all cases.

Nonetheless, the experimental stage has passed, Cunningham maintains.

Insofar as automation is concerned, the big problems confronting operators today, adds Cunningham, are: (1) when should automation be considered; and (2) how much can be economically justified?

Cunningham says that each tank battery installation should be considered for automation. Care should be taken, however, not to over-design equipment.

The degree of automation will, of course, depend upon the individual lease, Cunningham notes. There are several degrees possible:

- Automatic programming. This would involve preset flow or pumping periods and automatic testing.
- Measuring and recording. Production is measured and recorded on a tape, counter, or strip chart.
- Sampling and monitor control of oil to the tanks and pipeline.
- Lease automatic custody transfer.
- Office processing of data received.

By analyzing the cost of a conventional battery compared to the savings that may be realized by automating in any specific case, Cunningham says, the operator can tell exactly how much automation he can afford.

There are at least six basic factors to consider in deciding when and where to use automation, Cunningham adds.

The ideal time to install automatic equipment is during original installation, he believes. But since this is seldom possible, unless a lease is fully evaluated before the installation of battery equipment, conventional equipment should be designed so that conversion to automation may be done as cheaply as possible, he says.

Most automatic leases today are the result of the conversion of the original lease equipment, the Sun engineer reports.

Whenever replacements of existing equipment would be necessary any how, it is relatively easy to justify automation, Cunningham says.

This is true in cases of secondary recovery, for instance. When such projects are initiated they normally require redesign and relocation of existing treating facilities in any case, Cunningham says.

Another factor to consider is unitization, because a large number of small conventional batteries might be consolidated into a few automated batteries.

The Sun engineer adds that whenever there is a large vapor loss, with a high-gravity crude, an ACT installation can save "a considerable amount" of money.

Though automation affords greater efficiency, safety, and accuracy, economics is the prime reason why operators should consider it, Cunningham maintains.

Savings can be divided into two sections, direct and indirect, says Cunningham. In the first category there are savings in labor costs, vapor-loss prevention, steel, maintenance, and salvage of existing equipment.

Cunningham says labor savings alone would result in a payout of 5½ years for the automation of 40 wells at a cost of $1,300 per well.

Although vapor losses depend upon the characteristics of the crude involved, Cunningham says that, as a rule of thumb, it is generally assumed that there is a 2½% increase in liquid volume for each degree rise a gravity. On a lease producing 500 b/d, for example, an 0.5% increase in gravity would net savings of $6,500 per year, on the basis of $2.85 per bbl.

The indirect savings cannot be measured in dollars and cents, Cunningham says, but in some cases they are more important than the direct savings. These indirect benefits include greater accuracy in measurement and recording; safer operating conditions; continuous operation, regardless of weather; more accurate data on reservoir and well performance; increased production control; and upgrading of personnel.

Cunningham spoke to the American Petroleum Institute's Rocky Mountain District, Division of Production, meeting in Casper, Wyo., this week. He concluded that, although complete automation is still not economical in all cases, companies should carefully analyze and review leases for automatic operations, either presently or in the future.

Aluminum's Oil Uses Are Growing

The petroleum industry is increasing its use of aluminum alloys in a broadening range of operations, says M. E. Carlisle, Jr., of Aluminum Co. of America.

Carlisle, reviewing aluminum's present position in the petroleum industry, says that where aluminum is not now economical, new products and manufacturing techniques are being developed in efforts to make it so.

The Alcoa engineer adds that aluminum is currently being promoted for those applications in which it is economical in present forms.

Much of the progress made with aluminum alloys has been in the field of tubular products, Carlisle reports.

Portable piping, such as that used for drilling-rig supply, represents one of the most promising applications for aluminum pipe, he says. This is so because lighter weight can result in important savings in movement and handling. Carlisle says these savings more than offset the higher initial cost of aluminum pipe.

Lightwall aluminum pipe also is being used for semipermanent piping, such as that on production leases, Carlisle notes. Light weight and ease of coupling again justify use of aluminum in this case, he maintains, even though the pipe is not expected to be moved frequently.

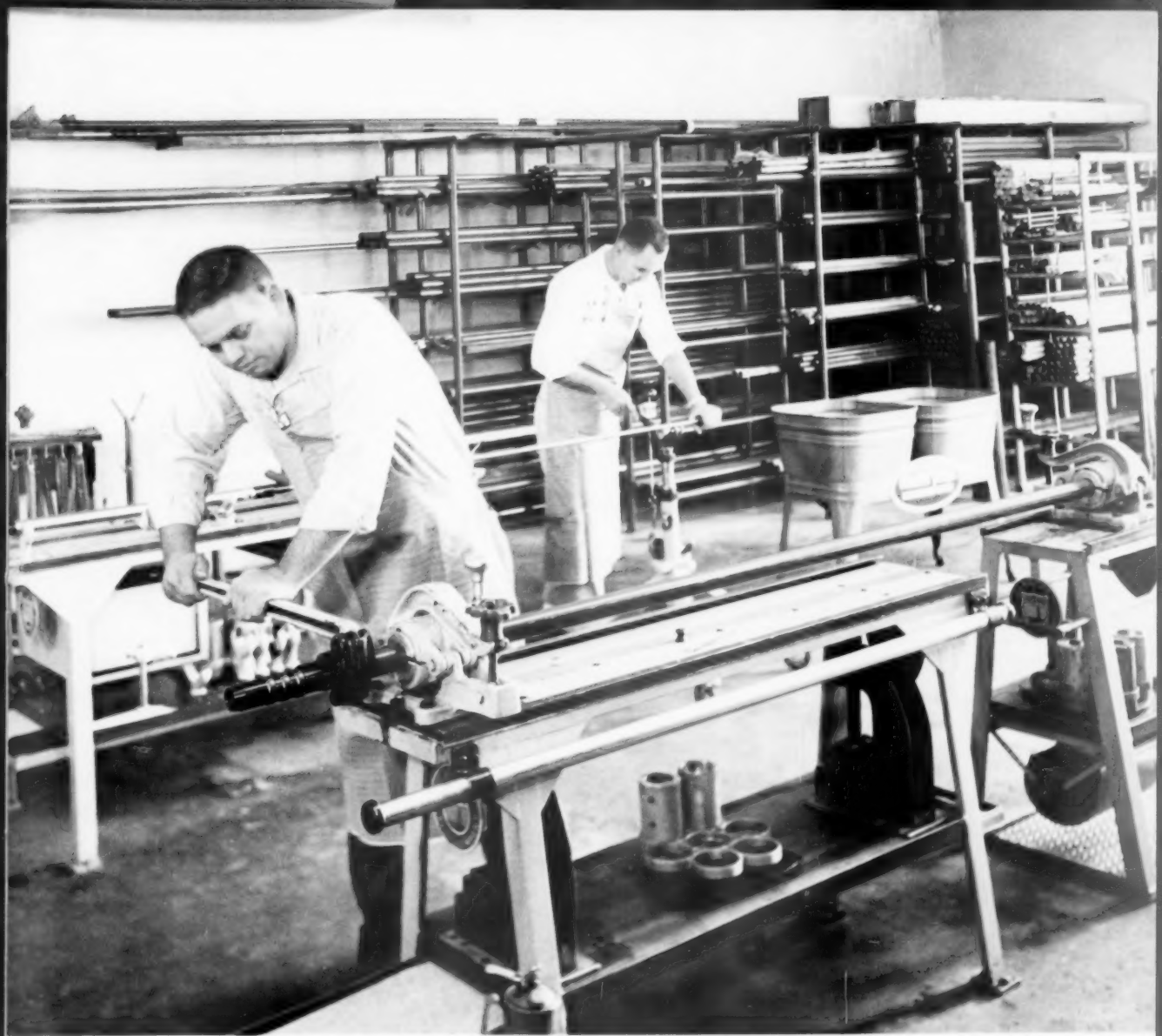
The major activity with aluminum pipe for permanent pipelines has been in flow lines and gathering systems, according to Carlisle.

He emphasizes that aluminum tubular products can now be produced with an essentially uniform inside diameter and varying wall thickness. By use of this new extrusion process, aluminum pipe can be made stronger at the ends for welding purposes. Up to now, the heat from welding caused a loss in strength, putting aluminum at a competitive disadvantage.

Carlisle adds that it is not easy to decide if aluminum pipe should be buried bare in a particular soil. He says most such experience has been favorable, but suggests that soil reactions to aluminum be studied before burying a permanent pipeline bare.

Aluminum also is being used for instrumentation and control lines, for heat-exchanger tubes, and in several other important areas, says Carlisle.

The Alcoa engineer says some small-diameter aluminum tubing has been used for eight years for separator control lines in sour crude areas. Weatherproofing of thermal pipe insulation

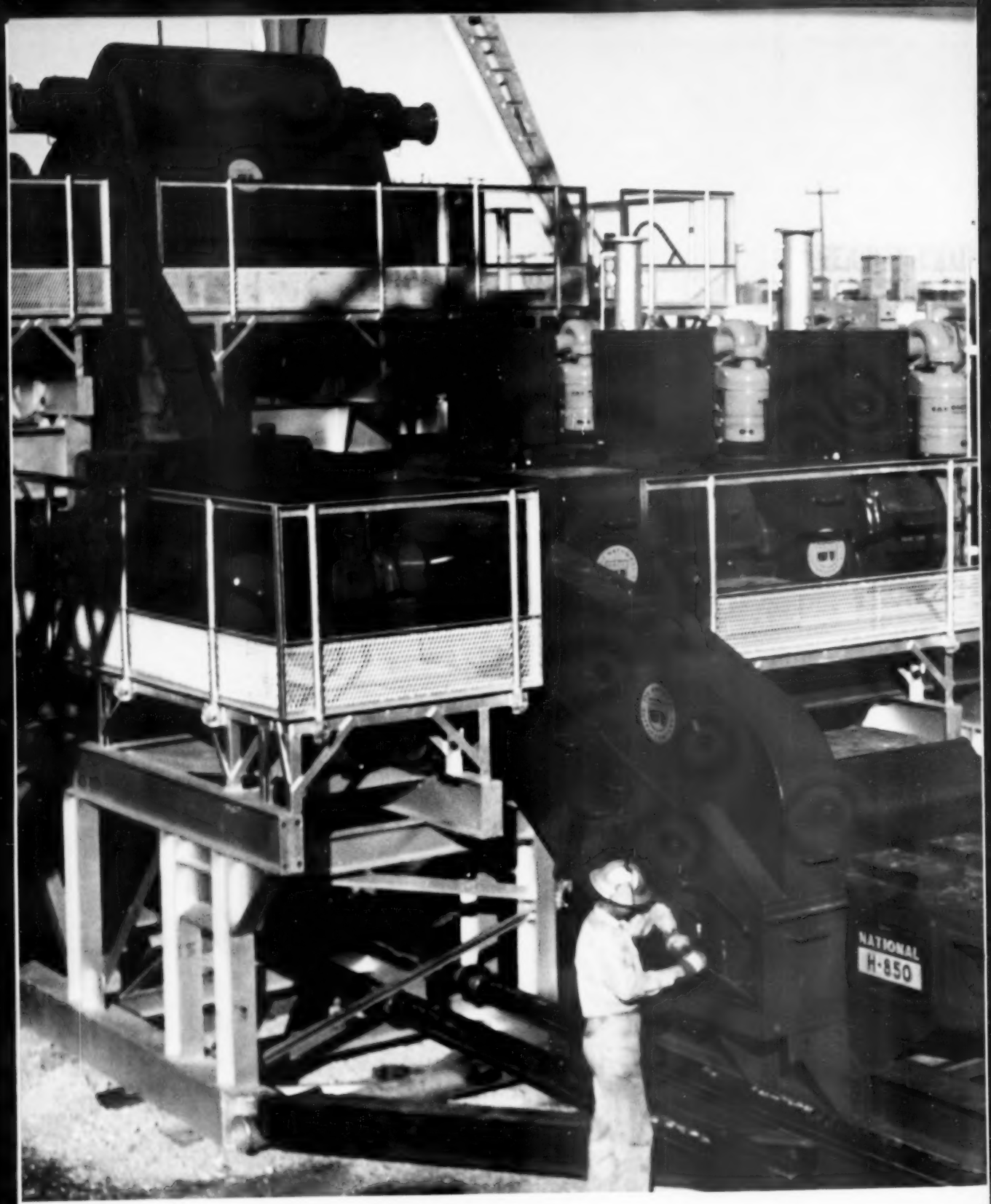


Oilmaster Pumps are typical of the broad line of quality equipment available through National's 124 stores.

This is the NATIONAL SUPPLY STORE, too!

Do you need service on a downwell pump—or do you need a new one? You're never very far from the National Supply service that can help you quickly. Most National Stores have pump shops—equipped with modern facilities and run by trained personnel. When you stop, take time to see the rest of the store and the warehouse. Every National Store offers an unmatched variety of quality equipment for all your needs.

On the next pages:
National Drive Group advantages



National Drive Group arrangement for a National Type 110 Rig (as assembled for a complete rig-up in our Houston Plant yard). National's sectional construction saves space, provides for a minimum number of wearing parts and trouble-free operation.

See them at the
INTERNATIONAL PETROLEUM EXPOSITION
Tulsa • May 14-23

You get maximum flexibility and many design advantages with National Drive Groups!

The choice of many alternative arrangements and a host of big design advantages are yours when you specify National Drive Groups. Check these National features and prove it to yourself:

SECTIONAL CONSTRUCTION—A basic advantage pioneered by National, this insures unmatched and fast adaptability to various drilling and slush pump requirements. Drives are compact, factory pre-aligned, easy to move and rig-up. Groups of two to five sections can be quickly assembled for a power plant of any capacity.

ENGINE COMPOUND CHAIN ENCLOSURES—When the group sections are joined, chain is enclosed in a continuous, in-line case. Chain is cascade lubricated from a built-in oiling system. Chain enclosures can be quickly broken for moving or inspection, and have protective cover plates for moving or storage.

POWER TRANSMISSION ARRANGEMENTS—Engines for National Drive Groups may be furnished with National Hydraulic Couplings, National Torque Converters or mechanical and air clutches.

ENGINE ADAPTABILITY—Pads or bases for mounting selected engines are integral in the frames. Any make of engine in oil field use may be installed.

OPTIONAL PUMP DRIVES—These include: Drives for one, two or three slush pumps; V-Belt or chain drives to the pumps; Single or two-speed pump drives.

NATIONAL DY-A-FLEX AIR CLUTCHES—Outstanding for rugged performance, these clutches are furnished for pump drives and, on rig drive groups, in the master clutch position.

AIR OPERATED CONTROLS—Air piping for controls is installed in the frames at the factory. Controls are conventionally located at driller's position for: engine throttles and clutches, pump drive clutches, master clutch and inertia brake, and (when specified) Gyrol fluid drive scoops. Upon request, extra control locations can be tailored for any requirement.

COMPLEMENTARY EQUIPMENT—Integrally mounted air compressor equipment for the rig control system is standard on National Drive Groups. Other drives for generators, dual air systems, etc. can be furnished to your specifications.

COMPLETE FACTORY TESTING—All National Drive Groups are assembled, lubricated and test run prior to shipment. Surfaces are protected by rust preventatives and all exposed surfaces are painted.

The National Representative in your area will be glad to give you more information on National Drive Groups, Rigs, and related equipment. Ask him soon.

National Auxiliary Drawworks Drive consists of a small fluid coupling, scoop controlled, mounted on a countershaft on the front engine frame. It permits all engines in a drive group **to operate as a single power unit while drilling.** But, at the same time, rotary speeds can be varied to meet all drilling needs.

A portion of the drive group for a National Type 55 Rig shows the National Torque Converter in operation. To protect the entire rig from shock loadings, National recommends the use of torque converters or hydraulic couplings.

More on the next page...

National Supply offers a complete rig-up service which insures faster starts in the field. Equipment boxed for export shipment is specially wrapped, sealed and weatherproofed against the conditions of passage and dock storage.

Save time and money with NATIONAL's rig-up service!

There's a *sure way* to be *fully* prepared for a new drilling job anywhere in the world—and National Supply's optional rig-up service provides it.

In either of our two special port center rig-up yards or your own equipment yard, we assemble—or direct the assembly of—the complete rig. Everything is positioned exactly as it will be used overseas. Then we test-operate, lubricate and adjust all components. Any problems that may cause initial delays at the well site are promptly solved. If you desire guide photographs and paint-coded parts for re-assembly, these are also supplied.

You can see how this rig-up service pays off for operations in remote areas, where services and parts are often days away. But it is also important for rigs closer to home—where even a short delay boosts estimated operating costs.

National has performed this time-and-money saving rig-up service for many years. We have a big list of satisfied customers who report *better rig-up time this way than with previous field assemblies*, and we will be glad to give you more details. Just contact the National representative in your area or our Export Division office in New York City.

If you desire guide photographs of machinery connections and paint-coded parts for re-assembly, these are also supplied.

THE NATIONAL SUPPLY COMPANY

Subsidiary of Armco Steel Corporation

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Litho in U. S. A.

with aluminum jacketing is another application that has found long use in the petroleum industry.

Carlisle says aluminum can be considered for pressure vessels and tankage in situations where a protective coating is required on steel. But, he adds, aluminum cannot normally compete with steel if such protection is not necessary. Carlisle discussed the uses of aluminum in the oil industry at this week's meeting of the American Petroleum Institute's Rocky Mountain District, Division of Production, in Casper, Wyo.

What's New / IN EXPLORATION, DRILLING, PRODUCTION

Efforts to change the allocation formula and to institute cycling has split operators in the Port Acres gas-condensate field, Jefferson County, Tex.

The Texas Railroad Commission now is considering testimony submitted at a week-long hearing on two applications. One of the requests—by Michel T. Halbouty, Meredith & Co., and Humble Oil & Refining Co.—was for a review of present methods of production and allowables, and a determination whether cycling or other secondary recovery operations should be conducted in the field.

The second request was by Peter Henderson Oil Co. for revision of Field Rule 3, the allocation formula, which is based ⅓ on the well and ⅔ on acreage. Henderson seeks to establish an allocation formula based on acre-feet of producing sand under each tract.

Opponents, including Southwest Production Co., H. L. Dillon, Jr., and J. C. Barnes, maintain that new rules are not needed to protect correlative rights and prevent waste.

Southwest Production's John Hill told the commission that the applicants "are trying to stop small-tract drilling in this area" by trying to institute cycling through unitization.

Halbouty and Henderson countered that a few owners of small tracts are preventing an over-all cycling program for the field which, if adopted, would result in eventual recovery of an additional 7-million bbl. of oil.

Recent production in the field has averaged about 70-million cf/d of gas, with average condensate production of 57 bbl. per million cu. ft.

The field, discovered in August, 1957, produces from the Lower Hackberry zone of the Frio at depths ranging from 10,400-700 ft.

•

Companies exploring Canada's Arctic islands and the northern Continental shelf will get additional time to determine which areas they want to lease.

Alvin Hamilton, Northern Affairs Minister, says the duration of the exploration permit period is being extended three years to make the total 12 years for lands north of the 70th parallel. South of this line, the permit period is nine years.

This change is being made, says Hamilton, because of the high cost of northern exploration and the short working season.

No permits have been issued yet, pending a decision on terms.

Hamilton says the government may grant leases on this reserve land any way it sees fit, not necessarily to the highest cash bidder. It may give leases to the applicant offering the highest gross royalty, he says, in order to encourage small operators with limited capital.

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More than 30,000 acres in West Texas will be offered by the University of Texas for oil and gas leasing on May 30.

The leases are in Andrews, Gaines, Crane, Ward, Pecos, Upton, Reagan, Crockett, Schleicher, Terrell, and Cooke Counties.

A 2,560-acre block in Andrews County requires a $60,000 minimum bonus, plus obligation to start a test to 12,700 ft. within six months.

Other minimum bonuses include $25,000 for a 1,205-acre tract in Pecos County, and $40,000 for 1,953 acres and $50,000 for 1,920 acres in Crockett County.

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Proration of medium-gravity crude in Saskatchewan is not necessary under present circumstances, the provincial Dept. of Mineral Resources has ruled.

The ruling follows a study of recommendations made by the Saskatchewan Oil & Gas Conservation Board based on evidence presented at a recent hearing (PW—Mar.6'59,p24).

The board recommends that the department study the present system of purchaser allocation in the medium-gravity fields of Weyburn, Midale, and West Kingsford, and that it take the necessary steps to ensure more equitable taking from the three fields.

This is in reference to the fact that maximum permissable production in these fields is uneven.

The hassle arose in February when four companies, representing 8% of Weyburn field production, asked that all medium-gravity crude production in the province, regardless of type or area, be prorated to market demand for medium-gravity crudes.

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The Colorado Oil & Gas Conservation Commission has announced a policy "to encourage and give special consideration to" outposts aimed at determining the limits of a field.

The commission stated the policy in an order allowing higher production rates in Adena field, in the Morgan County section of the Denver-Julesburg Basin.

The order raised the daily allowable of the "J" sand to 18,000 bbl. from the former rate of 15,000 bbl.

•

Alaska's Natural Resources Dept. will establish a separate division to handle the state's oil and gas leasing duties.

The Department, which has to select the 104-million acres of unappropriated federal lands to which the state is entitled, also is responsible for management of the state's mineral leasing program.

The latter will include leasing of offshore lands. The new state land act provides for competitive leasing of all offshore submerged tidelands.

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C. G. Glasscock-Tidelands Oil Co. has changed its name to Diversa, Inc., and has acquired controlling interests in several firms from Murmanill Corp., Dallas.

In additon to controlling five firms

in other industries, the company also will own substantial oil and gas properties, plus drilling equipment operated by Tidelands Drilling Co., a subsidiary.

Storm Drilling Co. will be a foreign contract drilling subsidiary. Ownership of Consolidated Ship Yard, Inc., a former Glasscock operation, also is now vested in Diversa.

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Hiawatha Oil & Gas Co. has asked Texas Railroad Commission approval of a unitized waterflood program for the 3,850-ft. Canyon sand in Yan-Kee field, Tom Green County.

The unit covers 2,524 acres, 2,034 of which are considered productive.

Hiawatha says that, of an estimated 7.1-million bbl. of oil originally in place, the flood will boost ultimate recovery by 1,455,000 bbl.

There are 46 producers in the unit, making an average of 6.23 b/d per well.

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Mountain States Drilling Co. is moving a rig onto Alaska's Kenai Peninsula to drill for Standard Oil Co. of California. The number of holes to be drilled has not been revealed.

The rig, which has been active in southwestern Colorado, is said to be capable of drilling to 20,000 ft. although this would require an engineered string.

Whether Stancal will drill to the rig's capacity has not been disclosed. The rig is being moved to a location near the town of Kenai.

Cost of moving the rig is estimated at more than $150,000.

•

Beginning geology students at the University of Texas will receive closed-circuit television instruction starting in September.

An $8,560 grant from the Minnie Stevens Piper Foundation, of San Antonio, will enable the geology department to produce 20 video-tape lessons. Each will be 30 minutes in length.

The series will be put on kinescope film and made available to other Texas schools and colleges.

Also in September, the university will start offering a curriculum leading to a degree in Petroleum Land Management.

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A detailed map book containing all of the oil and gas fields in California has been published by the Daily Munger Oilogram.

The book contains information on the status of wells and fields up to Mar. 15 of this year. Fields are mapped on a 1-in.-to-4,000-ft. scale.

The book contains 200 11x18-in. pages, and is priced at $20. The address is 5865 West Blvd., Los Angeles 43.

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The Rocky Mountain Assn. of Geologists, Denver, has scheduled a symposium on the complete Cretaceous sedimentary section in Colorado.

A field conference in connection with the symposium is scheduled for Oct. 7-10. It will commence at Saratoga, in southern Wyoming, and end in northwestern Colorado.

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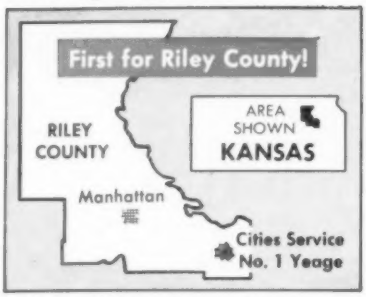
Engineering

Black, Sivalls & Bryson has published a new method of sizing oil and gas separators "quickly and accurately for a wide range of well stream conditions."

The new method, says BS&B, reduces affecting conditions and characteristics to factors, and incorporates these factors into a universally applicable equation. Factor values have been precalculated and tabulated to permit visual selection of separator sizes. Catalog 30 can be obtained from BS&B, 7500 E. 12th St., Kansas City, Mo.

Drilling Highlights



Kansas—Cities Service Oil Co. No. 1 Yeage, section 25-11s-8e, Riley County, recovered 145 ft. of 33.9-gravity oil plus 40 ft. of very heavily oil-cut mud on 2-hour drillstem test of the Hunton lime at 1,683-91 ft. The wildcat, 18 mi. northwest of Davis Ranch pool in Wabaunsee County, is on the west flank of the buried Nemaha Ridge. There is no oil production in Riley County.

West Texas—Fred Turner, Jr., No. 4-BB Shannon, subdivision 23, league 4, Archer County school land survey, Crockett County, was completed for 10,929 b/d of 31.5-gravity oil, based on 1-hour flow of 455.4 bbl. of oil through 7-in. casing and 3-in. flow line. Production is from open-hole section at 1,708-17 ft. The shallow completion, in Southeast Noelke lower Queen sand pool, is one location north of Turner No. 3-BB Shannon, the area discovery, which flowed at the rate of 2,152 b/d after blowing out earlier and flowing an estimated 75,000 to 100,000 b/d.

Oklahoma—Shell Oil Co. No. 5 Rumberger, section 16-10n-21w, Beckham County, has been temporarily abandoned at 24,002 ft. The hole, Oklahoma's deepest, and second-deepest in the world, was spudded July 13, 1957, and has been under test since last Oct. 26. Pipe, tubing, and surface connections will remain in place for some time in hopes that technological advances may create a producer from tight zones tested to plus-back depth of 13,887 ft.

East Texas—Pan American Petroleum Corp. No. 1 Giraud Unit, George Young survey, Cass County, flowed 280.8 b/d of 49.9-gravity oil through 8/64-in. choke and perforations at 10,620-53 ft. in the Cotton Valley. Pan American had already applied to the Railroad Commission to complete in two other zones, one at 9,957-72 ft. and the other at 10,245-67 ft., also in the Cotton Valley. Nearest Cotton Valley production is 30 mi. southeast, in Waskom field.

DEPT/Marketing

Women Drivers: Enigma to Marketers

Men have always tried to appeal to women. But oil marketers haven't quite agreed on how to appeal to women drivers—or even how much effort and money they should spend in trying.

A national survey of major oil companies, completed this week by PETROLEUM WEEK, reveals that many marketers don't see any difference between the sexes—at least when it comes to their buying habits at service stations. Consequently, these marketers don't favor any direct appeal to women.

But another group of marketers, more sensitive to the differences between male and female motorists, claim that women are becoming a much more important, independent factor in oil marketing. "They don't all follow their husbands' selection of gasoline," says one marketer (who is married). "And a lot of them don't have husbands."

The problem of how to treat women motorists becomes more acute year after year. Reason: the number of women drivers is dramatically increasing.

From 15-million female motorists in 1950, today there are 35-million. And their ranks increase at the rate of 2-million a year. Proportionally, women have moved from one out of every four of the nation's drivers (24%) to two out of every five (39%).

Marketers find two trends that, working together, place women in a more important position in the sales of gasoline and TBA products. First of all, the intensive growth of the nation's suburbs have pulled the lady of the house away from her main points of interest. Now she must drive almost everywhere: to shop, to take the children to school, to visit friends.

Second, the growth in the number of two-car families and the greater independence women have in running the household have made women more aware of the services of the gasoline station. The woman, very often, is the only member of the household who is well acquainted with the station dealer.

No major oil company has done a separate study of women consumers in service stations. But the results of research designed to analyze the behavior of the motoring public in general have revealed to oil marketers that women can be coaxed into their stations with a carefully selected set of appeals.

ROMANCE and CHILDREN: Two proven ways to appeal to women consumers.

"PAMPER US," women drivers say, "and we'll always come back to you."

Women respond to themes, oil marketers find, that emphasize the family and family security. Pure Oil Co. has adopted this approach in its recent full-page newspaper advertisements. "Pure Oil dealers are helpful," say the ads, illustrating a dealer who, with pin in mouth, is intently diapering a howling infant.

Pride in feminity, marketers also notice, means that the modern woman driver is susceptible to an approach that appeals to her womanly characteristics. For this reason, women shy away from appeals that stress product performance: Octanes simply aren't things for a woman to know about.

"A woman wants to be treated as if she is company when she drives into a service station—not just another customer," says one marketer. Consequently, oil companies find that they must surround themselves with cordiality, and hope that dealers will extend a "royal welcome" when the ladies drive in.

Because women are more emotional and less predictable than men, oil companies find considerable difficulty in planning national or even regional advertising campaigns that will surely appeal to all women.

Women form brand loyalties and station loyalties with more firmness than men. But their reasons for loyalty are strange and intimately personal, marketers find.

"Women personalize situations, and identify themselves with many things about them," says one marketer. "They will befriend a dealer whose wife is having a baby. They will become attached to a brand because they associate the symbol with a stage in their lives, or a happy memory."

For instance, oval signs are con-

SELLING OIL to women depends more on clean uniforms than on additives.

"SPARKLE CORPS" of ten women inspect Union Oil stations in the West.

sidered friendly by women. Lippincott & Margulies, Inc., the industrial designers who redesigned the station sign for D-X Sunray Oil Co., comment that the "oval has long been a symbol of the mother relationship, the egg, the home, etc."

Whatever women imagine about service stations, however, they generally appear to be attracted to big, major-brand stations (with wide driveways), and to premium gasoline pumps.

Surveys have shown that women desire the feelings of confidence and quality that only major brands, apparently, can instill. In addition, women depend upon major brands to a greater extent than men do because they use credit cards more than men.

And one recent survey of gasoline customers has shown that women prefer premium-grade gasoline. In the survey, 57% of the women drivers purchased premium gasoline, compared to 49% of the men.

One angle that's often used is the appeal that bargains and giveaways have for women.

Thousands of sacks of potatoes, bags of sugar, glasses, coasters, towels, and toys are given away each year by oil companies that are out to win the favor of women drivers.

Many oil companies are turning to the only sure source of information on how women react to gasoline stations—women.

Socony Mobil Oil Co. and Cities Service Oil Co. are among the companies that have invited wives to their annual dealer meetings, bringing the wife into a more personal relationship with her husband's job.

Pure Oil has specifically solicited merchandising ideas from dealers, wives, in a program called "Sugar and Spice—Everything Nice."

Union Oil Co. has commissioned a platoon of ten young ladies, in a "Sparkle Corps," to scout around the company's marketing area and check up on the appearance of its stations. "Stations will be graded from a very important viewpoint—that of the average woman customer," says a spokesman.

D-X Sunray has similarly been sending four women around to its stations, in a "Mystery Woman" campaign to improve the cleanliness of restrooms.

The attention to cleanliness is a paramount part of the appeal to women.

Market researchers agree that woman's physical delicateness has made her senses keener than man's. Women are, consequently, more sensitive to neatness and order in restrooms and offices, more attentive to detail in displays, and more disturbed by odors and grease stains than men.

What's New
IN MARKETING

Many private branders are heavy users of local radio advertising, according to a Radio Advertising Bureau survey.

Clark Oil & Refining Corp. sponsers the Milwaukee Braves and reports a 100% sales increase in four years. Mars Oil Co., of St. Louis, spends its entire ad budget to saturate its market with 140 spot ads a week. And Martin Oil Co. five-state midwestern private brander, spends 60% of its ad budget on radio.

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Tidewater Oil Co. has fattened its East Coast facilities with the purchase of one of the largest oil marketers in Virginia—Delta Oil Co.

Tidewater gains 28 service stations, nearly 100 dealer outlets, and six bulk plants and warehouses through the deal.

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Engineering

The jet-engine principle reportedly gets 25% more useful heat from every gallon of No. 2 fuel oil in a new oil burner developed by Shell Oil Co.

The new system gasifies a suspended fuel spray in a special chamber, and, according to Shell engineers, it is smokeless, quiet, and leaves no carbon. The design can be applied to water heaters and small residential furnaces.

Depreciation Reform—

Why Industry Needs A Modern Tax Policy

A shockingly large proportion of our industrial plant and equipment is obsolete. As indicated by an earlier editorial in this series, over $95 billion would have to be spent —and spent soon—to bring our industrial facilities up to the best modern standards. Yet plans for 1959 call for little more than $30 billion of actual spending—barely enough to make a start on this backlog of modernization.

At the heart of the problem of obsolescence is a federal tax policy that discourages business from replacing inefficient facilities. It is the purpose of this editorial to spell out a tax reform Congress can make this year—with little cost in terms of tax revenue—that would go a long way toward removing the barrier to modernization of plant and equipment. This reform is a more realistic system of tax deductions for depreciation and obsolescence of productive facilities.

A Barrier to Modernization

Industry abounds with examples of old and obsolete facilities—despite large expenditures made in the past few years. Two-thirds of our metalworking equipment is over ten years old. Over half the capacity of our chemical process industries was installed before December 1950. Only a minor fraction of our railroad freight moves in new freight cars or the new push-button freight yards.

The tax law bears a large part of the responsibility for this lag in modernization because of its important influence on business investment in plant and equipment. For many years the tax law has permitted as a deduction from income "a reasonable allowance" for wear and tear and obsolescence of productive facilities. These annual deductions affect business investment in several ways.

- They are the way a company recovers its investment in plant and equipment.
- They determine in large measure, the amounts of money that are spent each year to replace and modernize facilities.
- Furthermore, the schedule for depreciation often determines **when** a specific machine or building is actually replaced.

The law requires that depreciation deductions be spread over the "useful life" of a building or machine. But the periods of useful life for tax purposes today still depend heavily upon tables drawn up by the Treasury almost 20 years ago. These tables reflect the replacement practices of depression years. Also, they were compiled at a time when the pace of technological progress in industry was much slower than it is now. **For nearly all types of equipment the indicated period of useful life is longer —sometimes much longer—than most experts consider realistic at today's rate of technological advance.**

The result of these outmoded depreciation schedules is that the recovery of investment is dragged out, and the replacement of obsolete equipment is delayed.

In The Right Direction

Congress should establish, by law, the right to use shorter depreciation periods on productive equipment. It should do so in a way that would free industry from obsolete concepts of the rate of technological change and would provide incentives to install new equipment and produce new products.

The tax reform act of 1954 made some progress in this direction—but not enough. It introduced new methods for calculating depreciation—the declining balance and the sum-of-the-years' digits—which enable a business to recover most of the investment in a new facility in the early years of its useful life. However, these new methods do not accomplish their desired purpose when the supposed "useful life" is still an unrealistically long period of years.

Industry is by no means free from blame for the failure to bring depreciation policy into line with the needs of a modern, growing economy. According to Joel Barlow, president of the Tax Institute, "management has largely ignored the Commissioner's invitation . . . to come into the Internal Revenue Service office and make a case for shorter depreciable lives by establishing technological obsolescence."

The failure of many companies to see their own interest in more realistic depreciation not only holds them back from modernizing their own facilities but also lends support to the Treasury in its continued adherence to an outdated policy.

A Suggestion For Reform

An excellent model for reform of the depreciation policy in our tax law is the system used successfully in Canada for a decade. In Canada, all productive equipment may be depreciated at relatively fast rates assigned to each of 14 broad categories. The Canadian system permits depreciation up to twice as fast as the antiquated tables of useful lives now followed in the U. S. It also gives the individual business far greater flexibility in determining depreciation schedules that fit its own needs and experience.

For example, in the category or "bracket" covering general machinery a taxpayer in Canada may depreciate up to 20% of the machine's value annually, on a declining balance basis. In the U. S. the fastest rate at which many types of machinery can be depreciated is only 10%. In other categories, from tools and dies to buildings and pipelines, the Canadian system also allows faster depreciation and provides greater incentive to invest in new facilities.

The cost of this reform in terms of lower tax revenue would be small—probably less than $500 million in the first year. And even this would merely be postponed, not permanently lost. Indeed, there is a very good prospect that tax revenue would not suffer at all. The increase in spending for new plant and equipment resulting from this tax reform would mean an increase in wages and profits—and therefore in taxes—in industries that produce machinery and other capital goods.

A realistic tax policy on depreciation would provide a badly needed incentive for industry to replace obsolete and inefficient facilities with up-to-date plants and equipment. It would step up our rate of technical advance and economic progress. And it would put U. S. industry in better shape to meet the growing competition from other countries that have grasped the advantages of fully modern technology.

This message was prepared by the McGraw-Hill Department of Economics as part of our company-wide effort to report on opportunities for modernization in industry. Permission is freely extended to newspapers, groups or individuals to quote or reprint all or part of the text.

Donald C. McGraw
PRESIDENT
McGRAW-HILL PUBLISHING COMPANY, INC.

J. Russell Heath, Atlantic *lessee* dealer, Lambertville, N. J., in competition with service station dealers from coast to coast, has been named "Retailer of the Year" by Brand Names Foundation, Inc. Mr. Heath's numerous community activities include: The Kiwanis Club; the Boys' and Girls' Kiwanis Committee; the local Masons; the Knights Templar; The Fleetwing Fire Co.; the Tall Cedars of Lebanon; and the Chamber of Commerce. Presently Mr. Heath is both President of the Board of Trustees and Treasurer of his local church.

Roy Poust, Atlantic *contract* dealer, Naugatuck, Conn. (left), and *Ellsworth Frazier*, Cuyahoga Falls, Ohio, dealer of Orr-Shaw Oil Corp., received Certificates of Distinction in this year's Brand Names awards. Messrs. Poust and Frazier, too, are well known by their interested participation in community activities.

What makes a man No. 1 in his field?

You can bet it'll be a long day before anyone comes up with a substitute for *hard work* in achieving success. But, when you add a quality line of products to ambition and business ability, you've got a pretty solid combination.

With such a combination—top man, top brand—everybody wins. The motorist who drives into the station gets the personal service and product performance he deserves. And the man at the pump, *be he a lessee, contract or distributor dealer*, through his success, contributes to the welfare of his family and to progress in the community.

The Atlantic Refining Company is proud of the recognition that so many of its dealers have earned in Brand Names competition over the past seven years.

Since 1952, Atlantic dealers have been finalists 32 times. They have won 12 Certificates of Distinction! FOUR HAVE BEEN NAMED "RETAILER OF THE YEAR."

Today over 8500 lessee, contract and distributor dealers sell branded Atlantic products in our 17 state marketing area. These men, backed by specialized training, expert coaching, modern facilities and business methods, are on a winning team, successfully selling the brand that "keeps your car on the go."

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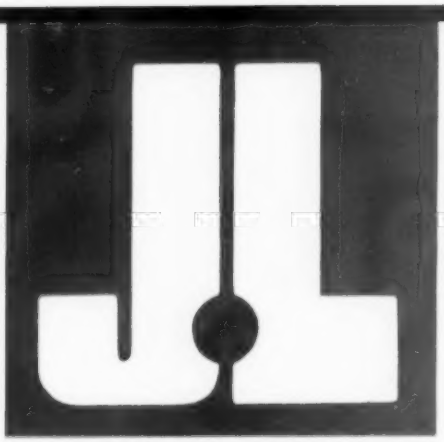
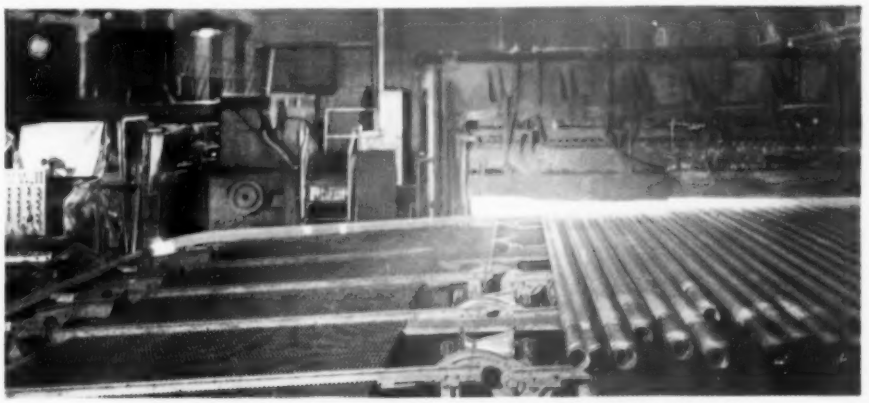
THE ATLANTIC REFINING COMPANY

PRODUCER, REFINER AND MARKETER OF
QUALITY PETROLEUM PRODUCTS



An $800 million investment in steel-making facilities contributes to J&L's new stature as a major supplier of tubular products and other steel products. New facilities, important to improved and expanded production of these products,

If your company uses any tubular products, J&L's annual tubular products capacity of over 1,000,000 tons merits your consideration as a major source of supply. By recent investment of nearly $78 million in the finest pipe-making facilities known, J&L is now able to meet your most rigid specifications for all tubular products—even during periods of high steel demand.



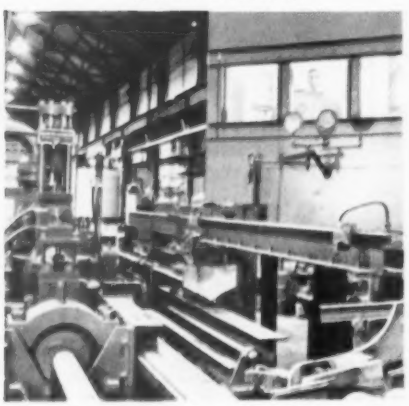
New upsetter for high-strength integral joints is one of the largest in the world

Seamless High-strength Casing in process at this J&L $13½ million facility

Grayloc Tubing joint provides high strength positive leak resistance

$4½ million stretch reducing mill improves Seamless Pipe quality

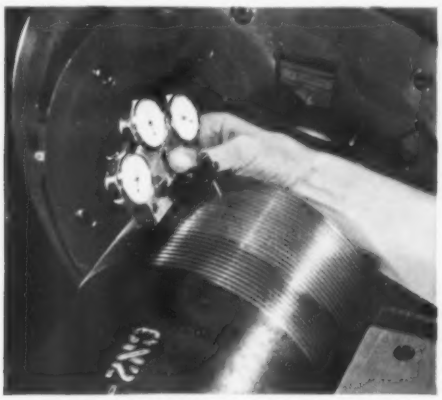
J&L can deliver yearly over 200,000 tons of multiple tested Electricweld Line pipe



Electricweld Line Pipe is tested on one of world's largest hydrostatic testers

include (left to right): this 496,000-ton capacity blast furnace; a $74 million open hearth shop; a $15 million 68-inch blooming mill; new equipment to scarf four sides of a slab simultaneously; a new $33 million 44-inch hot strip mill.

Modern $2 million facility produces Extreme Line Casing*



New facilities for Buttress Thread Casing cost nearly $1½ million

J&L now has well-rounded line of Drill Pipe

Two new Continuous Weld Pipe mills are $17 million investment

The new J&L is one of the world's largest sources of tubular steel products. Annual production of over 1,000,000 tons of tubular products is possible with J&L's greatly expanded facilities for line pipe, standard pipe, drill pipe, tubing and casing.

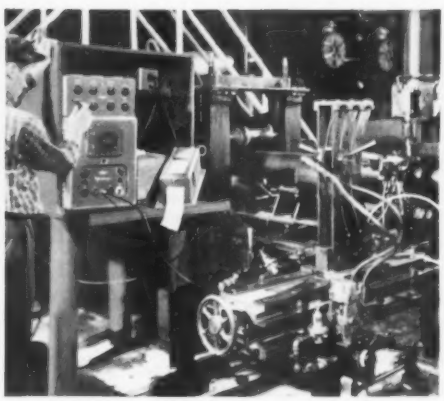
All J&L products are made of "integrated company" steel, with stringent inspection and testing to guarantee standards of quality never attainable before.

A network of J&L sales offices, J&L Supply Division Offices and stores, and leading distributor offices and stores, blankets this country and Canada with J&L tubular products.

Jones & Laughlin Steel Corporation

PITTSBURGH, PENNSYLVANIA

Flattening test is given all J&L Electricweld Line Pipe



J&L research led to ultra-sonic inspection of Electricweld Pipe quality

J&L products for Petroleum Industry

Standard and Line Pipe
Seamless Oil Country Goods
Seamless Mechanical Tubing
Cement-Lined Pipe
Seamless Drive Pipe
Jal-Jacket (Steel-jacketed polyvinyl chloride pipe)
Electricweld Tubing
Wire Rope
Wire Rope Slings and Assemblies
Steel Drums and Pails
Jal-Tread Floor Plates

* Extreme Line Casing is produced under license from The National Supply Company.

improves Seamless Pipe quality

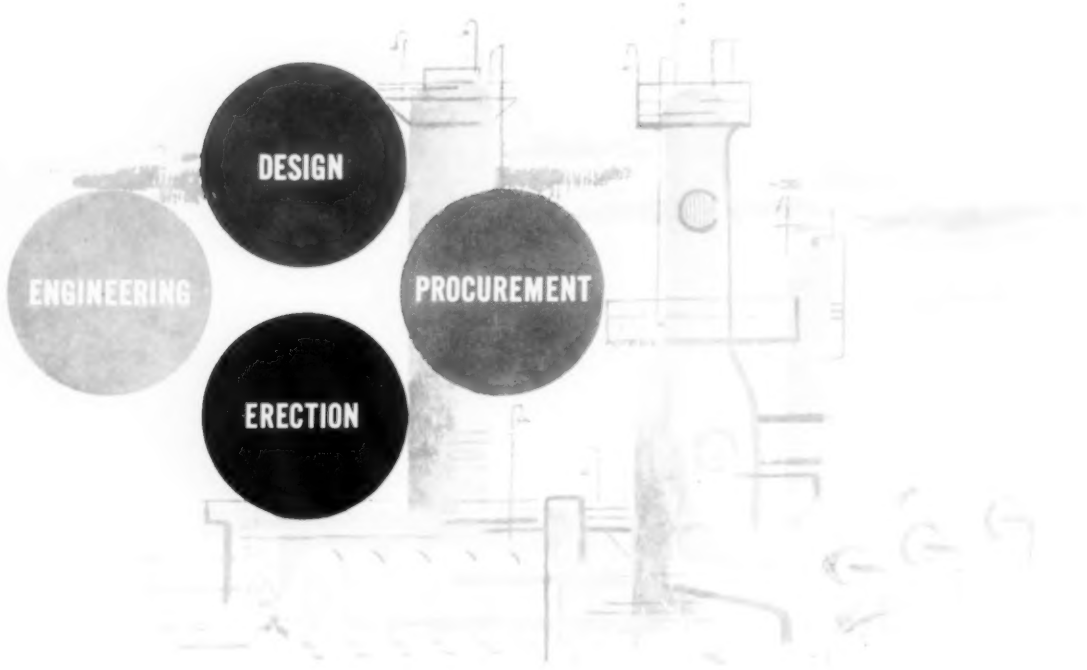
multiple-tested Electricweld Line pipe

world's largest hydrostatic testers

announcing the formation of

VICAPROCON, S.A.

to serve in the industrial development of Venezuela



PETROLEUM REFINERIES / PETROCHEMICAL PLANTS / CHEMICAL INSTALLATIONS / INDUSTRIAL UNITS

Headquartered in Caracas, this new company combines the sound Venezuelan construction and business experience of Shevica S.A. with the world-wide technical and engineering "know-how" of Procon. As a first step in its service to Venezuelan industry VICAPROCON is now engaged in studies for various projects relating to the oil and chemical industries.

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DEPT/Processing & Petrochemicals

CO-Boiler Protects California Air

Waste gas boilers, using as fuel the carbon monoxide and unburned hydrocarbons coming from the regenerator of a catalytic cracking unit, are a "must" in any area where air pollution is a critical problem, according to refiners in the smog area of the West Coast.

The first of these boilers was installed in 1953 by Babcock & Wilcox Co. in the Houston refinery of Sinclair Refining Co., under the supervision of Oliver Campbell, chief combustion engineer for Sinclair.

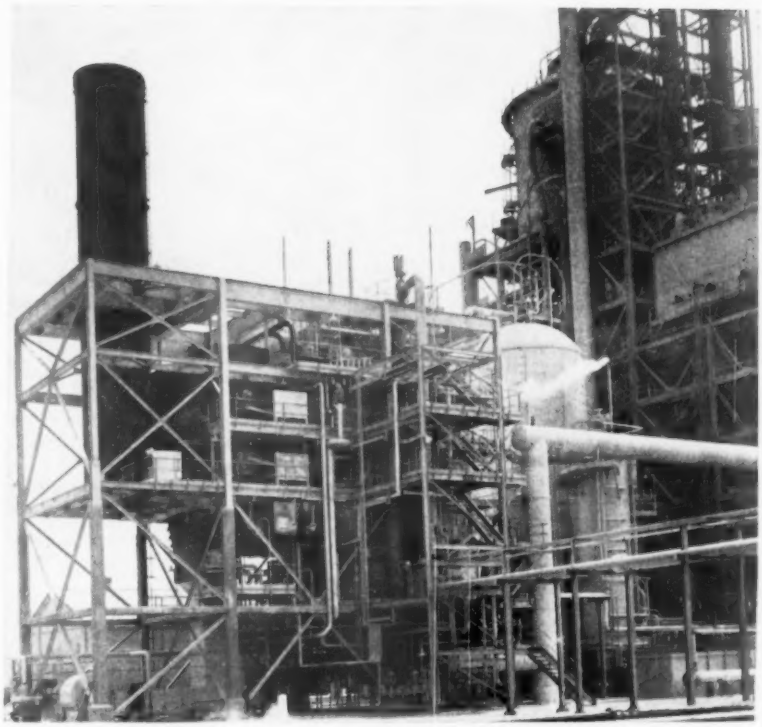
At that time, however, atmospheric pollution played only a minor part in Campbell's decision to use such a boiler. The principal purpose was to make use of the heating potential of the gas produced during catalyst regeneration. This potential includes both the "sensible heat" of the gas (that is, its heating value due to its high temperature) and the heat that will be produced by burning it.

Such a process had to justify itself economically by covering both its capital cost and its operating cost. Sinclair set no financial value on air pollution control.

The regenerator gas, which contains about 5% by volume of carbon monoxide, has an approximate heat value of 15 Btu. per cu. ft. It leaves the regenerator at a temperature of 1,070F to 1,100F. Upon reaching the primary combustion chamber of the boiler, it is burned in conjunction with auxiliary natural gas, and 10% to 20% excess air under pressure, at a temperature around 1,800F. A refractory combustion chamber was used for this boiler. Flue gases are used to preheat the feedwater in an economizer, and are then discharged at a temperature around 525F.

The boiler produces 300,000 lb. per hour of saturated steam at 710 psi. This steam is then superheated in an ingenious superheater buried in the regenerator fluidized catalyst bed. As the quantity of heat to be removed from the regenerator is greater than the heat required to superheat the steam to the desired temperature of 750F, some steam condensate is admitted into each superheater section. In that manner, both the steam and the regenerator bed temperatures can be controlled. Final steam production is 400,000 lb. per hour.

This spring, the latest versions of carbon monoxide boilers are going on the line in California—one at the Wilmington-Dominguez refinery of Shell Oil Co., and one each at the El Segundo and Richmond refineries of Standard Oil Co. of California.



CO-BOILER at Shell's Wilmington (Calif.) refinery is latest effort to keep air clean.

These boilers were installed by Combustion Engineering Corp. They differ from the initial Houston type principally in that they have a water-cooled primary combustion chamber, and can consequently accept a higher combustion temperature.

These new CO-boilers were carefully designed to avoid the familiar "plume" which indicates air pollution to smog-conscious Californians.

The California Standard boilers have no economizers. The one at El Segundo has provision for an air heater, but it is designed for an exit gas temperature of 840F, in order to keep the atmosphere clear. The Richmond boiler has an air heater, and its flue gases will therefore reach the atmosphere at a slightly lower temperature, according to the constructors.

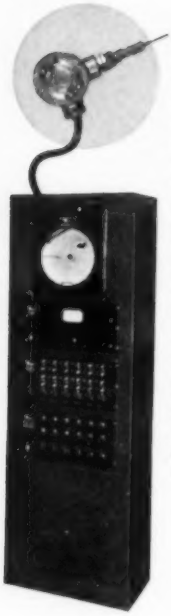
The Shell boiler, which operates entirely under automatic control, generates 230,000 lb. of steam per hour. It is equipped with both an economizer and an air preheater, but the gases may, if necessary, bypass the air preheater. This would be required if a higher gas exit temperature seemed indicated, to avoid the "plume" at the top of the stack.

Further refinements, to avoid air pollution by catalyst regenerator gas, have also been installed in these refineries, in the form of dust eliminators, of either the cyclone or the electrostatic types. These can be located either between the catalytic still and the CO-boiler, or after the boiler.

All along the Pacific Coast, in Canada, the U.S., and Mexico, refiners are currently using these waste gas boilers to avoid polluting the atmosphere with carbon monoxide, unburned hydrocarbon gases, and small particles of catalyst dust.

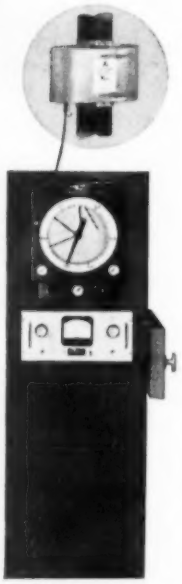
"The petroleum industry, in recent years, has spent more than $44-million to control air pollution from its refineries and other installations in the Los Angeles area," says Geo. C. Montgomery, Shell Wilmington's refinery manager. "Petroleum facilities here have been equipped with controls approximating the limit of known engineering capability."

BETTER CONTROLS for viscosity and specific gravity



BENDIX* ULTRA-VISCOSON* VISCOSITY METERS

In a single system, Bendix Ultra-Viscoson provides continuous and automatic viscosity control of from one to six individual stations. Ranges: 0-50/-500/5000/50,000 centipoises X grams/cc. Ideal for use in liquid blending and fuel atomization. Applications in the petroleum, chemical, gravure and flexographic printing, steel, paint finishing, adhesives and various other fields. New "Viscomparator" measures and controls by comparing process with reference sample. Ultra-Viscoson systems are available to fill most industrial and research requirements.



BENDIX* NUCLEAR DENSITY GAGE

In process pipelines the Bendix Nuclear Density Gage provides continuous and automatic control of fluid density. Range: 0.5 Sp. Gr. and up, with adjustable spans. Ideal for abrasive, corrosive, viscous and high-pressure processes; sensing element does not contact process material. Applications: liquid concentration, specific gravity, density, liquid level, slurry control and interface detection. Range and span adjustments on front panel.

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For control of refinery processes . . .

Use of Chromatography Grows

Gas chromatography in refineries has now been developed to the point that it can control processing operations automatically and effectively.

Developed several years ago after a period of trial and error experimentation (PW—Aug.16'57,p57), chromatography has made steady strides.

Chromatographs have become more sensitive and selective—and, at the same time, simpler in construction.

The principle of their operation has not changed, however. The sample to be analyzed, in gas or vapor form, introduced at given time-intervals into a flow of carrier gas, generally helium, passes through one or several columns containing a specific "partitioning agent." This agent separates the components of the sample, which are then measured individually in a "thermal-conductivity element." An "attenuator system" sets the desired "peak location" for each component, for recording on a bar-graph.

Instead of simply recording on a graph the qualitative and quantitative analysis of a gas flow, thus making it possible to monitor the operation, the chromatograph is now equipped with a pneumatic transducer which operates adequate valves, so that any deviation from normal conditions can immediately be automatically corrected.

Chromatography has the advantage of being inexpensive and relatively fast. It has, however, certain limitations, says M. V. Perry, of Consolidated Electrodynamics Corp., of Houston.

For example, he says, no single column-packing material can be used for all analytical problems; the columns are sensitive to temperature, and thus require frequent renewals.

The technique is used today for a multiplicity of operations. Among the most important are: the fractionation of light hydrocarbons, from ethane to pentene; the control of high purity of propane, isobutane, n-butane, isopentane, or ethylene, when as little as 0.1% of impurities must be detected and corrected; the production of chlorinated oelfinic hydrocarbons; the measurement of the H_2S - SO_2 ratio for maximum sulfur recovery.

Just as with computers used in refineries to control various processes, chromatographs must be given a predetermined program to follow.

The programmer of the Process Vapor Fractometer, made by Perkin-Elmer Corp., for example, is designed

OPERATOR SETS PROGRAMMER of a Process Vapor Fractometer. Left hand sets peak indicator, right hand adjusts one of five span-attenuators.

for great versatility of operation. It incorporates a single disc tuning wheel, for setup and calibration, and a mechanism for automatically resetting the instrument to zero before each cycle.

Refiners in Texas and Oklahoma, who are currently using chromatography to operate fractionating towers automatically, express themselves as satisfied with the results.

Phillips Petroleum Co., for example, uses a Perkin-Elmer Fractometer to control a debutanizer tower in the natural gas liquids facilities at its Sweeny (Tex.) refinery. This instrument is used in conjunction with a Peakreader developed by Phillips. Phillips officials say that both these instruments are working very satisfactorily.

TEL'S Future Sound, Says Ethyl V-P

Although it does not take as much tetraethyl lead today as it did three years ago to bring the octane rating of gasoline to the required antiknock value, the tetraethyl lead industry is in a sound state, says J. A. Costello, vice-president of Ethyl Corp.

In 1956 the average content of TEL in regular gasoline was 2.2 cc. per gal. By December, 1958, it was down to 1.5 cc. per gal.

Main reason for this reduction, says

Costello, was the advent of catalytic reforming, which boosts the octane blending value of low-octane streams. Catalytic reforming capacity today is capable of treating about 20% of total crude throughput.

A second cause of the reduction in the use of TEL is that the rate of increase of the octane value of gasoline has slowed down. The reason for this is mostly economic, says Costello, since the higher the octane level, the more it costs to boost it still further. For instance, he says, it costs as much as ½¢ to ¾¢ per gal., regardless of the process used, to raise the octane rating of gasoline from 99 to 100.

However, he predicts, the average octane rating of premium gasoline will go as high as 102 to 104 within the next five years, and that of regular gasoline as high as 95. And he believes that this will be accomplished most economically with TEL.

With the present yearly growth of population and gasoline consumption, Costello says, TEL consumption should increase by about 5% per year.

Furthermore, he says, the recent discovery of the "Texas Lead Appreciator," to improve the effectiveness of lead in gasoline, especially at octane ratings over 100 and at maximum lead concentration (PW—Apr.3'59,p36), should result in an increase in the use of TEL.

What's New / IN PROCESSING

Deurag-Nerag will install a combination crude still, thermal cracking, and delayed coking unit this year at its Misburg (Germany) refinery, near Hannover.

The unit, according to The Lummus Co., which engineered it, is to be completed in 1960. Its flexibility is such that it will be able to produce as much as 50% of diesel distillate and as little as 20% of gasoline and fuel oil. It has a capacity of 3,000 metric tons per day, or approximately 21,300 b/d.

•

British American Oil Co., Ltd., will spend $1.5-million to expand the capacity of its Nevis (Alberta) gas conservation plant from 15-million to 35-million cf/d of raw gas.

The plant is being expanded to process wet gas from the nearby Nevis wet gas field for B-A and Imperial Oil Ltd. The stripped gas is delivered to the Alberta gas trunk line for the Trans-Canada Pipe Line.

The expansion will include new inlet facilities, amine gas and amine liquid treaters, refrigeration units, sulphur recovery, and boiler plants. Completion is scheduled for this fall.

The plant has been in operation since December, 1956.

•

General Tire & Rubber Co. has announced production of a new "steam-whipped" synthetic rubber for tires—Gentro-Jet SAF. The new rubber, a special blend of synthetic with ultra-fine carbon black, is manufactured at General Tire's Odessa (Tex.) plant. Road tests of tires made with the new rubber have shown a 30% to 35% increase over normal tread wear.

•

Texas City Refining, Inc., has just put a 7,000 b/d Houdriformer on stream at its Texas City refinery. Process design for the new unit was furnished by Houdry Process Corp.; engineering and construction was done by Catalytic Construction Co.

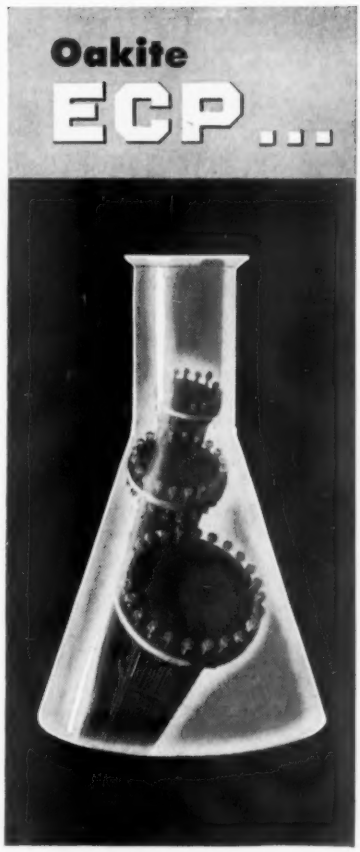
•

Pan American Petroleum Corp. has completed construction of its Beaver Creek Unit Processing Plant at Riverton, Wyo. The plant, which began full-scale operations on Apr. 1, has an initial capacity of 47-million cu. ft. of gas per day. Operated by Pan American for itself, Kerr-McGee Oil Industries, Inc., and Phillips Petroleum Co., the plant recovers propane, butane, and natural gasoline.

•

Texas Alkyls, Inc., will begin construction this month on its new Houston plant for the production of aluminum alkyls, a special catalyst used in the manufacture of polyethylene. Texas Alkyls is a joint subsidiary of Hercules Powder Co. and Stauffer Chemical Co.

The plant will produce more than 1-million lb. of aluminum alkyls a year. Completion is scheduled for late this year.



Best way to clean a tube bundle

ACTUAL JOBS prove that the best way to clean a tube bundle is the OAKITE ECP way... which recommends *chemical cleaning* by in-place *circulation* or by *tank-soak*. At one refinery, where crews hand scrubbed 60-tube, 12-foot bundles, the recommendation cut cost per bundle from $392 to only $120. An Oakite ENGINEERED CLEANING PROGRAM is developed specifically for your refinery, gives detailed recommendations for everything from coolers to crackers. The Oakite engineer sticks with the job till it's done to satisfaction. Along with his experience go products and methods developed by one of the finest chemical cleaning research facilities in existence.

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OAKITE ECP your economy key

In our 50th year

Coming: Less Product Commingling

New "cut point indicator" is reported to show promise of more automatic, more accurate detection of interfaces in product pipelines.

A new instrument—a "cut-point indicator"—which automatically signals arrival of petroleum product interfaces in a pipeline, has just passed a six-month on-the-job test in Western Canada.

The testing company, Goliad Oil & Gas Co., of Breton, Alta., 50 mi. southwest of Edmonton, still has a few unsolved problems with its new indicator. Nevertheless, it feels that the device may be a big step toward more effective automatic separation of products batched in a pipeline.

And such separation, many pipeliners feel, is one of the most pressing problems in operating products pipelines today.

Acting somewhat like a signal tower at a railroad yard, the new indicator "watches" for the end of each product, and then alerts the terminal operator.

The cut-point indicator chosen by Goliad is the Model 150-P, built by United Engineers, Inc., of Tulsa.

Goliad's Breton products terminal receives batched butane, propane, and isobutane from the company's central fractionation plant in the Pembina Field, 20 mi. southwest.

A 6-in. pipeline carries the products from the Pembina plant to Breton. The line handles the LPG in batches of not less than 1,430 bbl. and at a rate of six bbl. per minute.

The line can also move natural gasoline, but Goliad says that, so far at least, such movement "has not been necessary."

The United cut-point indicator electronically senses the arrival of a product interface in the Goliad line and sounds an alarm to an operator at Breton. The operator closes off the tank receiving the current product and switches over to a new tank to receive the next product.

If, for some reason, the operator fails to respond to the alarm, the detector itself will shut down the line by stopping the pump.

The new cut-point indicator senses the arrival of an interface between products by measuring the dielectric constant—the ability to hold an electric charge—of the fluid flowing through the line.

As the LPG product passing the indicator changes, the change in the dielectric constant unbalances an impedence bridge on the indicator—in the same manner as an arriving freight train might trip a signal device at a railway crossing.

The new indicator dispenses with the old, time-consuming, costly method of determining interfaces in which a series of initial boiling points were tested.

Goliad's most difficult problem with the indicator has been the determination of interfaces when the transition between products is irregular or blurred.

If the transition between products is not smooth, the indicator may be fooled into signaling for a switching of tanks before a particular product has actually completed its run through the line.

A "smooth" interface, where the transition between products is regular, can be separated with little waste or slop, and without causing either product to lose its specification. But one-third of the interfaces in the Goliad system have been irregular. These uneven interfaces result in a great deal of commingled products, requiring costly separate storage and disposal problems.

Goliad has tried several different approaches to the problem of blurred interfaces. It has installed better backpressure control on the line; kept flow stoppages to a minimum; and maintained the largest possible batches.

"We are still working on the problem," says E. H. Scott, Goliad gas engineer, "and would be very interested in hearing of similar experiences from other operators."

Goliad has solved other problems, such as the proper balancing of detector circuits in the indicator, and the development of a recorder to be placed at the switching point.

Goliad engineers attributed the difficulty with the detector circuits to the strangeness of the instrument to its new service. But, Scott says, "after proper calibration, the instrument provided a satisfactorily sensitive and dependable indication of interfaces."

For the recorder, Goliad needed "an intrinsically safe" instrument that could operate at the switching point. The problem was aggravated by a lack of a dry air supply in the area, and a specification calling for a particular type of electrical equipment. But after considerable study, Goliad developed a recorder that works safely in conjunction with the cut-point indicator at the switching point.

'Process' Solids in a Pipeline?

Partial processing of solids such as oil shale while moving through a special pipeline may help make such pipelining economical, Julian Nardi, chief mechanical engineer of Ford, Bacon & Davis, Inc., New York consultants, said this week.

Nardi described progress in pumping solids through pipelines this way to the annual meeting of the American Society of Civil Engineers:

"Today, chemical additives materially assist in conditioning the solid particles to facilitate transportation. Tomorrow, chemical reactants will process the solids in transit and increase their value upon delivery to the consumer."

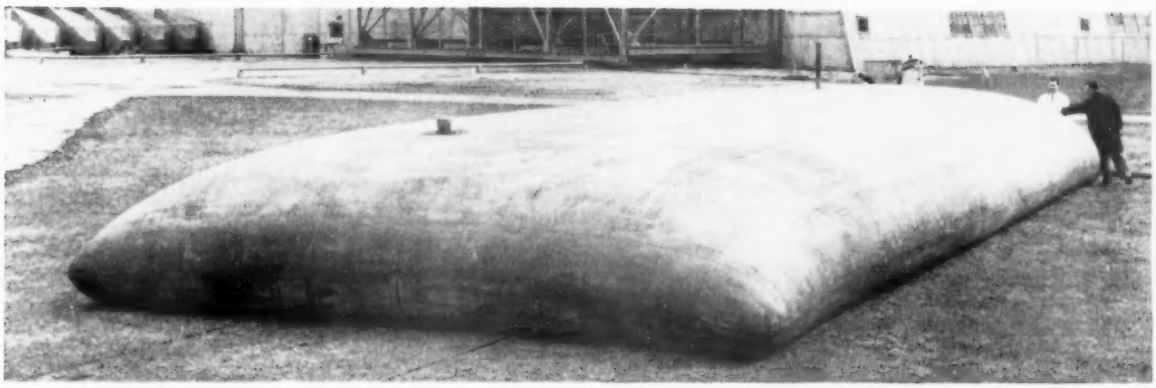
Nardi has spent almost 25 years in making economic and technical pipeline studies. Much of the time has been spent on the pipelining of solids.

He said that facilities for processing or preparation of the solid and its subsequent dewatering and drying "usually cost more, and present more difficult technical problems, than pumping the slurry or building the pipeline."

But this kind of "processing pipeline" for solids is still some way off.

Nardi lists some 32 variables that must be considered in designing a solids pipeline—including the characteristics of the solid itself, and of the slurry; and the distance and topography of the pipeline right of way.

To "anyone contemplating a solids pipeline," Nardi recommends: a thorough check of the economics; use of all the best technical data and talent obtainable; and allowance for "plenty of lead time between the economic justification and the anticipated commercial operation."



Fold-Up Oil Containers Are Growing

Collapsible fabric tanks can now hold up to 50,000 gal. of oil—and a 100,000-gal. "bag" can now be made whenever users ask for it.

A "pillow" filled with oil? Not so strange, if the pillow is made of nylon and can hold 50,000 gal. of petroleum products.

Goodyear Tire & Rubber Co. has just manufactured such a pillow (picture). It's a long sack of specially coated nylon, measuring 64 ft. by 24 ft., and weighing about a ton when collapsed. Ordered by the Army Corps of Engineers, the pillow will serve the government by storing fuel off the shores of the United States and foreign countries.

The storage pillow is versatile and easily handled. Its first users, the Army engineers, will be able to fill the pillows with any type of petroleum product, for use in all corners of the world, regardless of weather conditions.

Made of synthetic-coated nylon, the pillow is impervious to both freezing and blisteringly hot weather, and it is not corroded by liquid petroleum products.

The pillows, Goodyear says, are easy to use. Even "nontechnical personnel," the company claims, will be able to unroll the folded pillow on a flat surface, hook up fuel supply to the intake fitting on the side of the pillow, and pump in the fuel.

The Army private can just as easily empty the huge pillow by releasing the discharge valve, according to Goodyear.

Once emptied, the pillow can be transported and stored economically. The nontechnical recruit simply rolls the deflated nylon sack into a relatively small package and then carts it away.

Intended for commercial applications as well, the new fabric tank is rated as the largest in the world, and the predecessor of still larger collapsible storage tanks.

Goodyear project engineer R. O. Kline points out that Goodyear is equipped to manufacture tanks that can hold as much as 100,000 gal.—and possibly even more—of petroleum products.

(Steel tanks in today's modern bulk plants range in size all the way up to 250,000 bbl.)

The oil pillow is the latest example of the recent trends toward flexible vessels for storage and transporting.

Earlier this year, Esso Petroleum Co., Ltd., completed the first commercial movement of petroleum products in a 10,000-gal. nylon-rubber barge (PW—Mar.13'59,p62). The kerosine-bearing, sausage-like tube floated behind a 45-hp. launch on its trip between England and the Isle of Wight.

Esso bought its "nylon bag" from a British manufacturer, Dracone Developments, Ltd., but manufacturers in both Germany and the U.S. are now said to be drawing close to the point where they can offer such "bags" for sale also.

More than two years ago, the Army announced that it was experimenting with "rolling fluid transporters." The transporters were actually rubber, tire-like containers, filled with petroleum, which were towed along behind trucks.

Both of these developments are the outcome of spreading research efforts to find more flexible, more economical storage and transporting containers.

The original germ of the nylon barge idea was born in the heat of the Suez conflict. European oil men were eager to develop a replacement for expensive oil tankers.

And the rolling oil tire came into being because Army transporters were hopeful of moving oil without cluttering truck space with clumsy drums.

Now oil companies are getting increasingly interested in newer applications.

Some possible uses of such flexible containers: for storage and transportation of offshore crude; and for storage of oil products inland, either in rivers and lakes or on land.

What's New / IN TRANSPORTATION AND STORAGE

Plans for a 36-mi. canal from Houma, La., to the Gulf of Mexico are now firming up.

Bids for construction of the canal, which will cut almost directly south from Houma through Terrebone Parish marshlands, are now being reviewed by the Terrebone police jury.

The parish authorities have already raised $3.4-million for building the canal, and have obtained the right of way.

•

The Navy is laying up seven more T-2 tankers.

Vice-Admiral John M. Will, Commander of the Military Sea Transportation Service, last week ordered the lay-up of the seven vessels upon completion of their current voyages.

Admiral Will also put four other T-2s in ready reserve.

•

The Federal Power Commission has approved Northern Natural Gas Co.'s plans to increase its system's capacity by 100-million cu. ft. of gas daily.

Northern will build 104 mi. of 30-in. line in Iowa, Nebraska, and Kansas, and will install 14,000 compressor hp. in these states. The company will also build 18 mi. of 20-in. line from its system at Dubuque, Iowa, across the Mississippi River into Illinois to connect with the Northern Illinois Gas Co. system, a new customer for Northern Natural.

The expansion program is expected to cost $16-million.

•

Barring an unexpected jump in demand for ocean transportation of oil, the current tanker oversupply can be expected to grow through 1962 at least, according to a new survey of orders at shipyards the world over by W. G. Weston, Ltd., British shipping analysts.

The Weston report estimates that about 17-million tons will be added to the world tanker fleet by 1962, bringing the total tonnage to nearly 70-million.

World demand for tankers, the report concludes, won't catch up to tanker tonnage until some time after shipyards work off their current backlog of tanker tonnage—probably not sooner than the mid-1960s.

•

The Texas Co. has just put into operation its new 4.2-million gal. products terminal at Williamsport, Pa.

The terminal will be one of Texaco's main takeoff points for products shipped through the new Laurel pipeline from the Philadelphia refining area.

At Williamsport, Texaco will distribute gasoline, furnace oil, diesel oil and kerosine received through the Laurel system to the surrounding north-central Pennsylvania area.

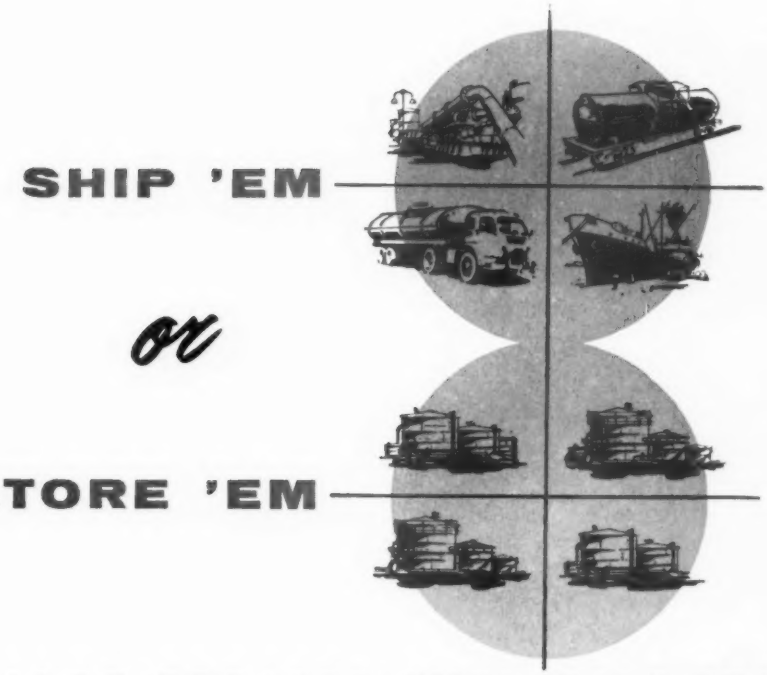
You have to **GROW FAST** to keep up with

THE INDUSTRIAL SOUTHEAST

During 1958, Southern Natural Gas Company inaugurated the greatest expansion program in its history. Our natural gas delivery capacity climbed to about *1.2 billion cubic feet a day.* By the end of 1959, we plan to have invested $100,000,000 for the system expansion program and connection of new gas supplies and to have upped our delivery capacity by 35% to 1.35 billion cubic feet a day.

It takes rapid growth to keep up with the increasing needs of our territory and our customers. For further information on Southern Natural's share in the booming INDUSTRIAL SOUTHEAST. . . . Write for your copy of our 1958 Annual Report.

SOUTHERN NATURAL GAS COMPANY
Serving the Growing South
WATTS BUILDING • BIRMINGHAM, ALA.



NALCO-TREATED FUEL OILS STAY FRESH!

Get rid of the hurry-up-and-sell pressure caused by unstable fuel oils that darken and sludge up when stored or shipped any distance. New Nalco 303-AC is the fuel oil dispersant-stabilizer that gives you *best* control of sludging tendencies—keeps fuel oils refinery-fresh, bright, and sludge-free even when shipped thousands of miles and stored for months.

Ask for product information on this new chemical for distillate fuels. It is available promptly from your Nalco Representative, or from Nalco direct.

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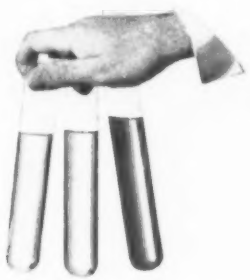


Fuel oil at *left* is fresh from refinery, bright and clear. *Center*, Nalco-treated oil is bright and sludge-free after four months. *Right*, untreated sample in four months time has darkened considerably, already begun to sludge.

Nalco® PRODUCTS

SERVING THE PETROLEUM INDUSTRY THROUGH PRACTICAL APPLIED SCIENCE

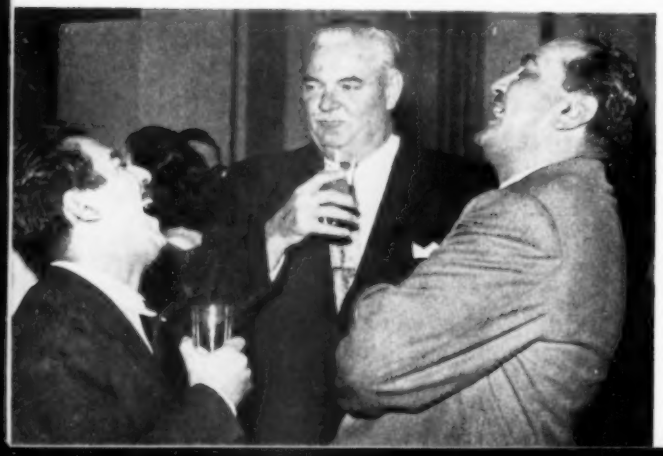
DEPT/International

Oil Men Mingle At First Arab Oil

PRESIDENT NASSER (left) of the United Arab Republic, hears Sir Philip Southwell, of Kuwait Oil Co., explain his exhibit.

PETROLEUM WEEK senior editor Wanda Jablonski and Mohammed Salman, secretary general of the Oil Congress, deep in a corridor conversation.

SHEIKH ABDULLAH TARIKI (left), Saudi Arabia's oil director, chats with George Ballou, of Standard of California.



IT WAS A GOOD ONE, obviously—told by Fred Penniman, center, vice-president in charge of Conorada's London office.

Parley in Cairo

ONE OF THE CHIEF VALUES of the First Arab Oil Congress in Cairo was the opportunity it provided for informal get-togethers between Western oil men and Middle East government officials.

As these typical scenes show, the opportunity was well used to establish direct contacts, and exchange humor as well as information. As at any API convention, the best "sessions" took place in corridors, hotel lobbies, and at cocktail parties.

In all, some 500 representatives of governments and of operating companies, both Western and Arab, attended. Highlight at the petroleum exhibition, held simultaneously, was a visit from President Gamal Abdel Nasser of the United Arab Republic (picture).

LIBYA'S OIL COMMISSIONER Anis Kassem (center) greets Mohammed Selim, president of Egypt's General Petroleum Co.

ESSO's Egyptian manager, A. S. Fakahany (center), H. W. Brown, Esso's Libya manager, and Lebanon's E. Bustani (left).

AT MOBIL OIL PARTY (above), left to right: G. Rodriguez of Creole Petroleum, Caracas; Brandon Grove, Socony London representative; Wanda Jablonski; G. Zuloaga, Creole; and J. Eichelberger, consultant in Beirut. UAR Minister of Industry Aziz Sidky (below, right), listens to Salah Nessim, Oil Congress chairman and head of UAR's General Petroleum Authority.

COLORFUL NOTE is added by Libyan Prince Abd el Senussi (above). Top-ranking Venezuelans at meeting (below) were Dr. Juan Pablo Perez Alfonzo (left), new Minister of Mines & Hydrocarbons, with Mrs. Perez at far left; and Dr. Manuel Perez Guerero, director of Bureau of Planning, standing next to Wanda Jablonski.

What's New / AROUND THE WORLD

GUATEMALA—California Standard last week gave up on its initial wildcat on the Livingston Joint Operation in Izabal as a dry hole.

The test, originally planned for about 7,000 ft., was carried below 8,348 ft. without encountering oil or gas shows. The location is on Right No. 4, near the Caribbean coast, on the south bank of the Rio Dulce 2½ mi. upriver from Livingston. Socal holds 21.55% interest in the 67,115-acre tract, and serves as operator for a group including Signal, Texaco, Bandini, Pauley, Sohio, Tidewater, Atlantic, and the Conorada companies.

•

IRAN—A second 23,000-sq. mi. area of northern Iran's Greater Qum Basin this week was declared open to bids for new oil rights between Aug. 1 and Oct. 1.

The new District 14 is a rectangle, partly traversed by the Zagros Mts., between longitude 51 and 54, and latitude 32 and 34. Its northwest corner is about 50 mi. south of Qum. Its northeast corner touches the southwest corner of District 18, an area of similar size recently opened to bids between July 1 and Sept. 1 (PW—Apr.10'59,p33).

•

GUATEMALA—Shell hopes to spud its initial wildcat in Peten at Laguna Blanca next week on its Right No. 10, after a delay due to unseasonably heavy rains.

The site is roughly 3 mi. northeast of San Francisco, where Atlantic Refining is now progressing slowly—due to caving-in of formations—below 700 ft. in its second test on Right No. 11. The first was abandoned nearby after failure to recover equipment lost in the hole.

About 9 mi. southwest, Ohio Oil is now below 3,800 ft. in its No. 1 Chinaja, in Alta Verapaz, just over the border from Peten.

•

ABU DHABI—The Persian Gulf's newest offshore oil find has been confirmed by successful completion of a second well. The site is 2 mi. west of the No. 1 Umm Shaif wildcat discovery, brought in last year 20 mi. east of Das Island by Abu Dhabi Marine Areas, Ltd. (PW—Sep.12'58,p53).

A third test is now being drilled, according to British Petroleum, ⅔ owner of the company. Cie. Francaise des Petroles holds the other ⅓.

•

VENEZUELA—Proved reserves on Lake Maracaibo Block 4 are estimated at 92-million bbl. at the end of 1958 with nine productive wells completed, based on figures released by Standard of Ohio for its 25% interest. Signal Oil & Gas holds 50% interest, and Pure Oil the other 25%.

Further projection of Sohio's figures indicates that the group's investment totaled $56-million by the end of 1958, including the original $33.7-million bonus payment for the 27,000-acre midlake block, as well as drilling and other costs.

By Mar. 30, 1959, 12 wells had been completed, capable of producing an average of 2,000 b/d each.

Sohio believes 10% of the entire block has been proved so far. Three rigs are now at work on exploration and development, and about 19 wells will have been completed by the end of this year.

•

ARGENTINA—Italy's state-owned ENI group last week won a three-year contract to drill 300 wells here. It's the third award for development drilling in Comodoro Rivadavia under the international tender that closed in February.

U.S. companies won the first two: Southeastern Drilling Corp. for 1,000 wells; and Kerr-McGee Oil Industries for 500 (PW—May1'59,p49).

•

INDIA—The British government has joined Assam Oil Co. in offering New Delhi another pipeline construction loan. This one totals £13-million ($36.4-million), of which the company would put up £10-million.

The loan would be used to build the second stage of a projected line to Bihar state from the new oil fields in Assam. Assam Oil and its British parent, Burmah Oil, have already loaned India £10-million for the first stage.

•

ANGOLA—Gulf Oil Corp.'s second wildcat in Cabinda is now below 9,000 ft. at Bucomazi.

The first was abandoned at 8,428 ft. last November at Ponta Vermehla. Gulf was granted oil rights in 1957 for the coastal region of the Cabinda district of Angola, a Portuguese province on Africa's west coast.

•

ARGENTINA—Union Oil Co. of California is getting set to start drilling by September on its 4-million-acre contract area in Comodoro Rivadavia.

A drilling rig is now being assembled for shipment to Argentina, the company announced last week. More rigs will be added later as required.

Gulf Oil Gives Up in Brazil

BRAZIL—Gulf Oil Corp. is pulling out after 14 years as a marketer in Brazil—though it will continue to supply crude to Brazilian refineries.

Gulf last week announced the sale of its Brazilian marketing subsidiary to Ipiranga S.A.-Cia Brasileira de Petroleos, a private Brazilian marketing and refining company which owns a 10,000 b/d plant in Rio Grande, at the southern end of Brazil.

Neither company is disclosing the purchase price. A Gulf spokesman in Pittsburgh would say only that a reported $7½-million figure is not correct.

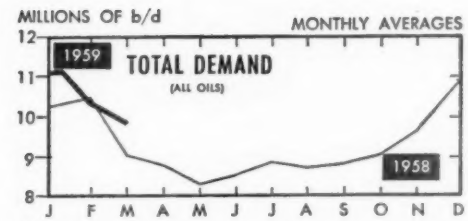
Gulf said it also has made a long-term agreement to supply crude to Ipiranga. This contract, Ipiranga said, is not tied in with the purchase of Gulf's marketing properties.

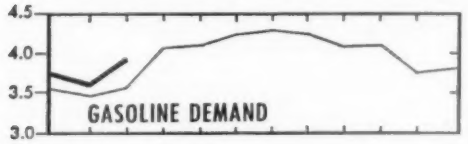
There was no hint whether the move was taken due to the clouded outlook for the majors that market in Brazil. Under a recent ruling, their product import quotas can be cut to permit the government's Petrobras to move into marketing (PW—Mar.13'59,p82).

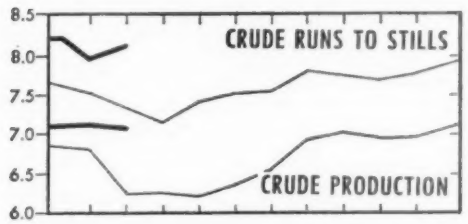
Gulf said only that it had been approached by Ipiranga last year, and that the sale should prove "very satisfactory" to both parties.

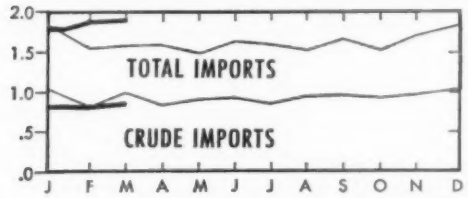
PETROLEUM WEEK'S

Fingertip Figures







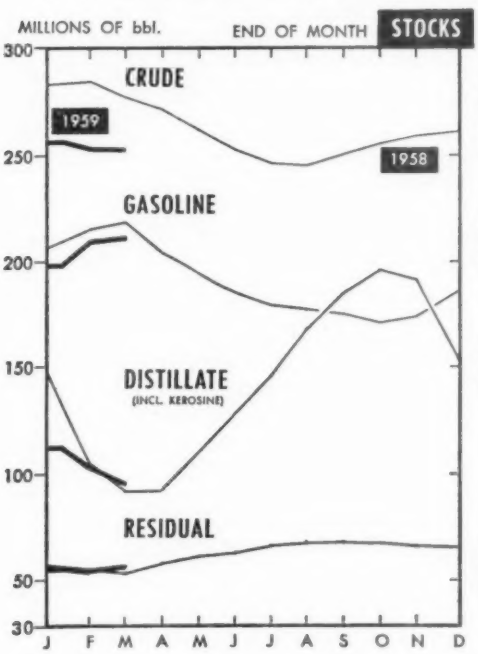


RUNS TO STILLS
Latest week 7.702
Previous week 8.705
Year ago 7.078

CRUDE PRODUCTION
Latest week 7.113
Previous week 7.132
Year ago 6.227

TOTAL IMPORTS
Latest week 1.441
Previous week 1.173
Year ago 1.504

CRUDE IMPORTS
Latest week .929
Previous week .659
Year ago 1.028



CRUDE STOCKS
Week ended
4-25 252.0
Previous week 251.0
Year ago 275.5

GASOLINE
Latest week 209.6
Previous week 211.7
Year ago 202.5

DISTILLATES
Latest week 106.7
Previous week 102.1
Year ago 95.0

RESIDUAL
Latest week 84.5
Previous year 85.5
Year ago 88.1

Supply-Demand Figures for April

(millions of b/d)

	April 1959	% Change from year ago	4 Months 1959	% Change from year ago
Total Demand (Inc. Exports)	9.252	+ 4.5	10.279	+ 6.1
Gasoline	4.173	+ 3.5	3.888	+ 6.5
Distillates (Inc. Kerosine)	1.769	— 0.9	2.809	+ 1.6
Residual	1.560	+ 8.7	1.882	+12.4
Total Supply	9.244	+ 6.5	9.935	+10.1
Domestic Crude	7.126	+13.3	7.179	+ 9.5
Nat. Gas Liquids	.850	+10.5	.852	+ 6.9
Total Domestic	7.976	+13.0	8.031	+ 9.2
Product Imports	.508	—33.2	1.012	+37.3
Total Imports	1.268	—21.8	1.904	+13.9

Total demand continues to lead 1958 by more than 6%, but total new supply is running 10% over last year.

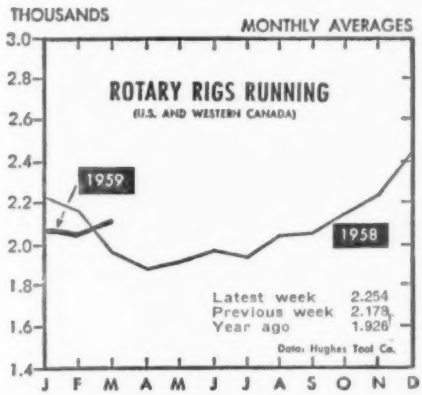
That was the industry's picture as it entered May, frequently the lowest demand month of the year. In the previous year, demand in May was exactly 2-million b/d below the peak reached in January.

The obvious national industrial recovery can be given the credit for the strong demand for oil so far this year. Residual fuel oil demand, which has been the pace-setter for four months, ran 8.7% over last year during April.

Temperature differences between the two months had no bearing on demand.

But despite the strong demand, the industry has now pretty much committed itself to live with high stocks and low prices until fall—maybe longer.

Product inventories, now at more than 500-million bbl., are in what nearly all oil economists term an "excess" position. And that's in spite of the fact that some companies say inventory carrying costs run between 35¢ and 45¢ a bbl. annually.



The Market Trend

Needed: Mandatory Controls on Tempers

It's hard to find anybody happy in the markets these days. Refiners aren't happy operating well below capacity. Barge buyers are trying to get cargo deals. And nobody seems too pleased about baring all his private contracts before the Appeals Board.

Hidden discounts on term barge sales of distillates had refiners and cargo buyers up in arms at New York harbor. Reports leaked out last week that some barge plant operators were getting No. 2 fuel supply contracts that were very close to cargo deals. Cargo buyers, with sums tied up in dock facilities and expensive real estate, were on edge.

A possible new imports ruling, with a broadened base period for residual, unsettled the No. 6 markets in the East. What do we do now, one marketer asked, if the quotas are changed after we have sold against them? Who will have to move over for whom?

And gasoline markets all over the country were not firming as fast as refiners would like them to. There was no tangible demand at the Gulf from East Coast buyers. Chicago wholesale prices still were under pressure. Offers to supply a municipal agency in Minneapolis ranged as low as 0.29¢ a gal. over Group 3 prices, delivered in trucks. On the West Coast, a slip of 0.65¢ was blamed on cheap product from the Gulf.

The mystery of why U. S.-flag tanker rates aren't firming up has shipowners guessing, too. It was widely expected that the imposition of import controls would tend to firm U. S.-flag rates because of increased Gulf-to-North of Hatteras crude and product hauls. U. S.-flag rates, however, are slumping along at USMC-45% for clean and —37½% for dirty, and vessels are going into lay-up.

Worst of all is the distress in foreign-flag ship rates. From London comes the estimate that 85 T-2s will be put out of work if imports curbs affects mainly the Middle East. If the curbs tend to affect Venezuelan oils, then about 55 T-2s will be idled. During the month of May, an average of two ships a day went into lay-up. In the Caribbean, tankers have been steaming idle up to three weeks waiting for cargoes.

By fall, though, some independent refiners feel, things ought to start looking a lot better.

Summer Plans For No. 2 Fuel:

There were few surprises in summer-fill plans announced last week in the East. Most companies are offering to protect their reseller customers against price declines from the time of pick-up of distillates, through Sept. 30.

Major marketers also offered to defer billing their reseller customers until Oct. 1. This is not a blanket free ride, however, for all billing must be approved in the credit office first.

Bids For Supply Of No. 6 Fuel:

There was low bidding to the Commonwealth of Massachusetts last week on No. 6 fuel. Offers ranged down to $2.219 per bbl, delivered in trucks, which compares closely to cargo-lot prices for delivered residual.

Some sources feel that the bids in New England may be the tip-off to some real tough appraisals when New York City comes into the market later this month.

The Market Place AROUND THE WORLD

Prices compiled for PETROLEUM WEEK by Platt's OILGRAM Price Service and National Petroleum News, McGraw-Hill Publications

All prices as of May 4

Bold face type indicates changes from previous week

KEY PRICES—REFINED PRODUCTS

(¢ per gal. except dollars per bbl. where $ is shown)

Western Hemisphere

U. S. Gulf Coast, cargoes
- Gasoline, 98 oct prem....12-13
- Gasoline, 92 oct reg....10.75-11.5
- Kerosine....9.5-10.375
- Heating oil, No. 2....9-9.875
- Gas oil, 48-52 d.i....9.25-10.125
- Fuel oil, bunker "C"....$2.00-2.10

Caribbean, cargoes
- Avgas, Grade 100/130....16
- Gasoline, 93 oct research prem....11
- Gasoline, 87 oct research reg....10.125
- Gasoline, 79 oct research....9.125
- Gasoline, 70-72 oct motor method....9
- **Kerosine....9.75↓**
- **Heating oil, No. 2....9↓**
- **Gas oil, 48-52, d.i....9.25↓**
- Fuel oil, bunker "C"....$2.00

New York Harbor, barges
- Kerosine....11
- **Heating oil, No. 2....10↓-10.5**
- Fuel oil, No. 6....$2.37-2.45

Okla-Group 3, northern shpt., bulk
- Gasoline, 89 oct reg....12-12.5
- **Kerosine....10.5-10.75↓**
- **Heating oil, No. 2....9.25-9.5↓**
- Fuel oil, No. 6....$1.80-2.00

Chicago, bulk
- Gasoline, 91 oct reg....12
- **Heating oil, No. 2....10.25-11.35↓**
- **Fuel oil, No. 6 high sulfur....7.4↓-7.5↓**

Los Angeles, rack
- **Gasoline, 88 oct reg....11.5↓-12.65**
- Diesel fuel, PS 200....8.5-11.25
- Light fuel, PS 300....$2.80
- Heavy fuel, PS 400....$2.15-2.35

Natural Gasoline, Grade 26-70
- FOB Group 3....4.5
- FOB Breckenridge, Tex....4

LP-Gas
- Propane, Oklahoma (Group 3)....4.5

Pennsylvania Lubes
- Bright stock, 25 p.t....22
- 200 vis. neutral, 25 p.t....21

Mid-Continent Lubes, Tulsa basis
- Bright stock, solvent 95 v.i....23-24
- Neutral, solvent, 200-210 vis....19.5-20.5

Gulf Coast Lubes
- Bright stock, solvent, 95 v.i....24
- Neutral, solvent, 200 vis....20.5

Eastern Hemisphere

Singapore (Pulau Bukom), cargoes
- Avgas, grade 100/130....17.25
- Gasoline, 79 oct research....9.75
- Kerosine....10.75
- Gas oil, 48 d.i. minimum....10.5

KEY PRICES—CRUDE OIL

(2¢ differential per deg., of grav. applies except as noted)

Western Hemisphere

United States (at the well)
- Mid-Continent, 36.0-36.9....$2.77-2.97
- North Dakota, 36.0-36.9....2.62-2.87
- Texas:
  - Gulf Coast, low cold test, 26.0-26.9....3.50
  - Gulf Coast, Upper & Lower, 26.0-26.9....2.92-3.22
  - West Texas, sweet, 36.0-36.9....3.00
  - West Texas, N. M., inter., 36.0-36.9....2.93
  - West Texas, N. M., sour, 32.0-32.9....2.71
  - East Texas, flat....3.25
  - Mirando, 28.0-28.9....3.31
- Illinois Basin, flat....3.00
- **Pennsylvania Grade, Bradford dist., flat....4.25↑**
- California, Signal Hill, 21.0-21.9....2.50-2.54†
- North Louisiana-Arkansas, 36.0-36.9....2.77-3.02
- Wyoming, sweet, 36.0-36.9....2.85-2.90
- Wyoming, sour, 32.0-32.9....2.63-2.71

Canada (flat prices, at the well)
- Acheson-Stony Plain (Alta.)....$2.47
- Leduc-Woodbend (Alta.)....2.53
- Redwater (Alta.)....2.42
- Daly (Man.)....2.21
- Smiley (Sask.)....2.18

Venezuela (Cargoes, FOB lifting port designated)
- Cumarebo, 47.0-47.9, Tucupido....$3.34
- San Joaquin, 41.0-41.9, Puerto la Cruz....3.10
- Oficina, 35.0-35.9, Puerto la Cruz....2.78-2.80
- Tia Juana, Medium, 26.0-26.9, Amuay....2.30
- Bachaquero, flat, Las Piedras....1.73-1.88
- Tarra, 38.0-38.9, San Lorenzo....2.83
- Lagunillas Heavy, flat, Cardon....2.10

†*Differential per deg. of grav. varies.*

Eastern Hemisphere

Middle East, Persian Gulf (Cargoes, FOB lifting port)
- Arabia, 34.0-34.9, Ras Tanura....$1.89-1.90
- Safaniya, 27.0-27.9, Ras Tanura....1.50
- Iran, 34.0-34.9, Bandar Mashur....1.86-2.04
- Iran, 34.0-34.9, Abadan....1.81
- Iraq, 35.0-35.9, Fao....1.80
- Kuwait, 31.0-31.9, Mina-al-Ahmadi....1.67
- Qatar, 41.0-41.9, Umm Said....2.05
- Neutral Zone, Burghan, 23.5-24.4, Mina Saud....1.51
- N. Zone, Eocene-Ratawi, 20.5-21.4, Mina Saud....1.38

Middle East, Eastern Mediterranean
- Arabian, 34.0-34.9, Sidon....$2.27
- Iraqi, 36.0-36.9, Tripoli, Banias....2.31

Far East, Cargoes, FOB Lutong, Sarawak
- Seria Light, flat....$2.57

KEY TANKER RATES

(Last paid, per long ton, single voyage)

- U. S. Gulf-New York, clean....(USMC—45%) $1.57
- **U. S. Gulf-New York, dirty (USMC—37½%) $1.78↓**
- NWI-USNH, dirty....(USMC—65%) $0.96
- NWI-UK/Cont., dirty....(Scale—30%) 22/9*
- Persian Gulf-UK/Cont., dirty....(Scale—70%) 20/10*
- **Persian Gulf-USNH, dirty....(USMC—70%) $3.81↑**

**Sterling.*

F. W. Laverty J. N. MacKendrick

F. W. LAVERTY, is the new president of Clark Bros. Co., Olean, N. Y., one of the Dresser Industries, replacing **J. N. MacKENDRICK,** who becomes chairman. Laverty has been Clark's executive vice-president since 1953 and before that, he was sales manager. MacKendrick, with Clark since 1928, has been president since 1953. In his new capacity, he succeeds **C. Paul Clark,** who has been named honorary chairman.

ERNEST E. SWARTSWELTER has been elected a director and vice-chairman of Blaw-Knox Co., Pittsburgh. He was formerly chairman of Aetna-Standard Engineering Co., which was recently acquired by Blaw-Knox.

VICTOR E. RENNIX has been appointed general sales manager of the Electro-Motive Division of General Motors Corp., in La Grange, Ill. He succeeds **Paul R. Turner,** director of sales, who is retiring. Rennix was most recently general sales manager of Electro-Motive's Chicago division.

BILL CROWL is president of National Pipe Testers, Inc., Odessa, recently licensed by Lynes, Inc., Houston. The new company will specialize in hydrostatic pressure testing of oil well tubing, drill pipe, and casing. Crowl was formerly associated with Hydro Test in West Texas, and with the Dowell Division of Dow Chemical Co.

ROBERT L. COLLIER is manager of Continental-Emsco Co.'s new store in Rock Springs, Wyo. The store will serve the southwestern section of Wyoming.

JERRY O. PRICE has rejoined Brewster Co., Shreveport, as a sales representative. Price has been with Associated Oil Field Rentals, in New Orleans and Lafayette, for the past year. Before that, he served as a Brewster sales representative.

JAMES M. BIRD, vice-president of Seismograph Service Corp., Tulsa, has been elected an SSC director. Bird was named vice-president in charge of SSC's well-logging activities in January, when SSC purchased Birdwell, Inc. Bird was president of Birdwell at that time. The recently acquired company now functions as a division of SSC.

JAMES S. ANDERSON, vice-president, moves up to general manager of Babcock & Wilcox Co.'s tubular products division. He was most recently head of sales for that division.

J. S. Anderson N. Andrew

NORMAN ANDREW becomes manager of operations for Johnston Testers, Inc., Houston. He was named chief engineer for the company in 1953, and in 1954 became manager of manufacturing, his most recent position.

J. A. CAMERON, JR., becomes president of Marley Co., Kansas City. He succeeds **Leon T. Mart,** who has been president of the company since it was founded in 1922, and who now becomes chairman of the board. Cameron has been executive vice-president of the company for the past six years. Before that, he was vice-president and western district sales manager. **M. A. Patton,** head of research and development, becomes vice-president in charge of those operations. Patton has held engineering management positions with Marley for the past 12 years.

I. B. ALLEN has been appointed representative in Trinidad, British West Indies, for Rolo Mfg. Co., Houston.

T. N. Shults P. Z. Hilliard

THOMAS N. SHULTS has been elected president and **P. Z. HILLIARD** vice president, of Mid-Continent Supply Co., Ft. Worth. Shults succeeds **D. H. Thornbury,** who has been elected chairman. Shults has been in Mid-Continent's export division in New York for the past ten years, and has been vice-president of that division since 1957. Hilliard was most recently Mid-Continent's general division manager in Ft. Worth.

ENARDO MFG. CO., Tulsa, has appointed four new distributors in Latin America to handle sales of all Enardo products, including a new line of lease automation equipment. The new representatives are: **Rodolfo M. Fernandez,** Mexico City; **Kenneth J. Langley,** Buenos Aires, Argentina; **C. and J. Ormachea, S. A.,** La Paz, Bolivia, and **Sicol Comercio e Industria,** Rio de Janeiro, Brazil.

ERNEST A. PRATT is general manager of Research Explorations (Alaska), Inc., Anchorage, newly formed subsidiary of Research Explorations, Inc., Houston. Pratt was formerly geophysical sales manager for Southwestern Industrial Electronics Co., Houston.

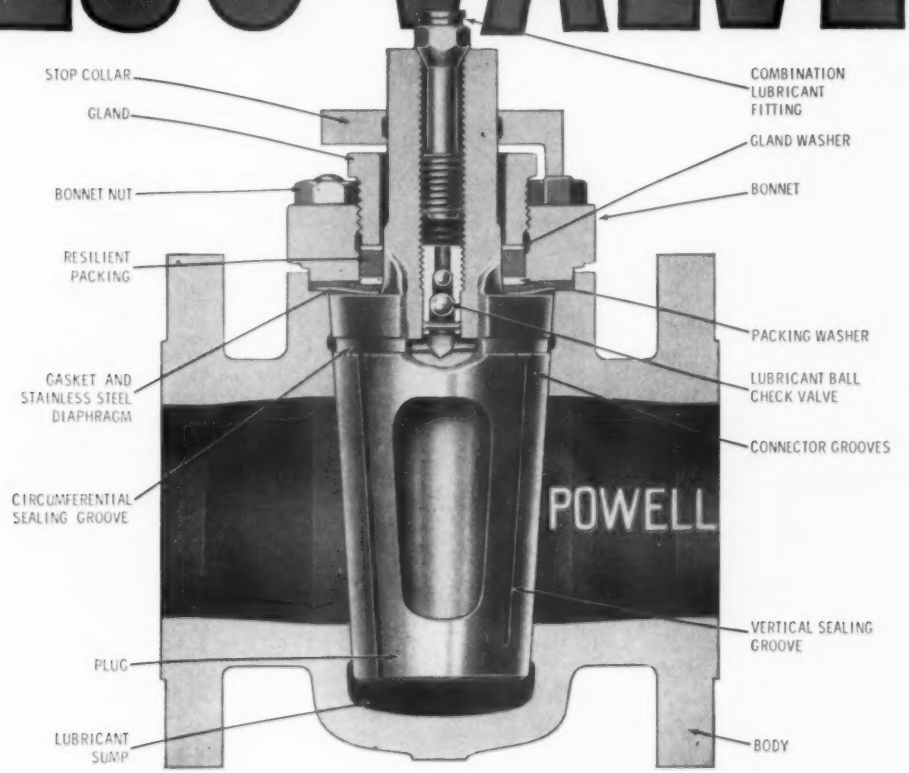
BRUCE REDWINE has been named executive assistant of Welex, Inc., Ft. Worth. He was formerly general manager of Welex of Canada, Ltd., in Calgary.

B. Redwine M. H. Cutler

M. H. CUTLER moves up to engineering manager of Stone & Webster Engineering Corp., Boston and New York. Cutler, formerly assistant engineering manager, succeeds **Fred W. Argue,** who was recently named executive vice-president. **Thomas A. Fearnside,** formerly chief mechanical engineer, succeeds Cutler. **Floyd F. Dedrick,** formerly assistant chief mechanical engineer, succeeds Fearnside.

POWELL

LUBRICATED PLUG VALVES



Sectional view Powell Screwed Gland Lubricated Plug Valve.

Like all Powell Valves, Powell Lubricated Plug Valves are superior in their field . . . and have many advantages over other conventional types of Valves.

- Simple design: only three basic parts—Body, Bonnet, Plug.
- Quick, complete shut-off—a quarter turn will close or open the valve.
- Tapered Plug assures positive seating.
- Machined surfaces of plug and body are not exposed in the open position. Any media adhering to the plug when in the closed position is removed when plug is rotated.
- Cavity-free straight passage assures streamlined flow in either direction. Scale and sediment cannot collect.

Powell Lubricated Plug Valves are available in sizes ½" through 16", depending on the type required—Semi-steel 175 and 200 pounds WOG;—Carbon Steel ASA 150 and 300 pounds.

Powell can also furnish Lubricated Plug Valves in other alloys on special order.

For all your valve needs, make it a policy to consult your local Powell Distributor—or write directly to us.

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Dependable Valves Since 1846 • Cincinnati 22, Ohio

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Baker Oil Tools, Inc. 20
Cameron Iron Works, Inc. 4
Chicago Bridge & Iron Co. 5
Cincinnati Div., Bendix Aviation Corp. 40
Cooper Bessemer Corp., The 30, 43, 52
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Engineered Oil Tools, Inc. 6
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Grove Valve & Regulator Co. 2
Houston Oil Field Material Co. ..... Cover 3
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Oakite Products Inc. 41
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William Powell Co., The 44
Procon, Inc. 38
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Classified Advertising
F. J. Eberle, Business Mgr.
Employment Opportunities 55
Equipment
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Boston 6 — Donald R. Thompson
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Hubbard 2-7160

Chicago 11 — Edward A. Callahan Jr.
H. Sherman Davis
520 North Michigan Avenue
Mohawk 4-5800

Cleveland 15 — J. E. MacArthur
1164 Illuminating Bldg.
55 Public Square
Superior 1-7000

Denver 2 — J. W. Patten
Mile High Center, 1740 Broadway
Alpine 5-2981

Houston 25 — D. O. Hanson
724 Prudential Bldg.
Jackson 6-1281

Los Angeles 17 — Peter S. Carberry
1125 W. Sixth St.
Huntley 2-5450

New York 36 — Donald R. Thompson
500 Fifth Ave.
Oxford 5-5959

Philadelphia 3 — W. A. Potter
6 Penn Center Plaza
Locust 8-4330

San Francisco 4 — William C. Woolston
68 Post Street
Douglas 2-4600

Tulsa 3 — J. A. Hartley
909 Enterprise Bldg.
522 South Boston
Gibson 7-5594

England, London E. C. 4 — E. E. Schirmer
McGraw-Hill Co., Ltd.
95 Farrington St.

DEPT/Personals

C. C. Tate

L. E. Fitzjarrald

R. B. Stewart

H. G. Fair

E. H. Lyon

G. W. McCullough

SIX NEW VICE-PRESIDENTS were elected at Phillips Petroleum Co.'s annual meeting held in Bartlesville, Okla., last week. The new officers are: **L. E. FITZJARRALD**, production; **C. C. TATE**, refining; **HARRY G. FAIR**, supply and transportation; **R. B. STEWART**, natural gas; **E. H. LYON**, sales; and **G. W. McCULLOUGH**, natural gasoline. Fitzjarrald has been manager of the production department since 1957 and before that, was general superintendent of that department. Tate became assistant manager of the refining department in 1944 and was promoted to manager in 1949. Fair was appointed manager of the supply and transportation department in 1957 and, earlier that year, held the position of chairman of Phillips' operating committee. Stewart became assistant manager of the natural gas department in 1951 and manager in 1956, and Lyon was appointed sales manager in 1954 and manager of the sales department in 1956. McCullough was chairman of Phillips' operating committee from 1951 to 1956, when he was named manager of the natural gasoline department.

R. J. SAVILLE has been promoted to sales development manager of Continental Oil Co.'s southwestern region, with headquarters in Ft. Worth. He joined Conoco in 1948 at Salt Lake City, and was assistant division marketing manager there for two years before transferring to Houston as assistant sales training director in 1956. **Paul K. Sloan,** formerly division sales development manager at Oklahoma City, succeeds Saville.

J. F. WEST, independent operator in Stamford, Tex., was elected secretary of the Texas Independent Producers & Royalty Owners Assn., at its annual meeting in Dallas last week. At the same time, **Vance Foster,** vice-president of the First National Bank in Dallas, was re-elected treasurer.

WILLIAM F. LOWE, executive director of the National Gasoline Assn. of America, received the Hanlon Award for his outstanding service to the gas processing industry, at NGAA's annual meeting in Dallas. Lowe has been connected with NGAA since 1934 and, before that, was technical editor for National Petroleum News and International Petroleum Technology. At the same meeting, **Charles E. Webber,** technical advisor to the vice-president of Sun Oil Co., Philadelphia, was elected president of NGAA, for the coming year. New NGAA vice-presidents are: **Donald B. Edwards,** sales superintendent of Pan American Petroleum Corp., Tulsa; **John M. Kindle,** vice-president of Lone Star Gas Co. and Lone Star Producing Co., Dallas; **Max R. Lents,** vice-president of Reef Corp., Houston; and **R. W. Heath,** vice-president of Signal Oil & Gas Co., Los Angeles.

WILLIAM A. GLIFORT is manager of Vickers Petroleum Co.'s newly created real estate and development department, in Wichita, Kan. He was most recently Gulf Oil Corp.'s retail representation manager in New York and Connecticut.

DR. E. A. YOUNGMAN is the new research supervisor in the synthetic rubber department of Shell Development Co.'s Emeryville (Calif.) laboratories. He has been in the synthetic rubber department since it was organized earlier this year.

HARRY S. MURPHY is the new refinery superintendent for Aurora Gasoline Co.'s Detroit refinery. **Carroll J. Ryskamp** is the new process superintendent at the Detroit refinery.

JOHN B. KRIZER becomes assistant manager of Cities Service Oil Co.'s supply and distribution division, in Bartlesville, Okla. He has been superintendent of refined products supply in that division since it was formed three years ago.

PETER A. BLASCO, formerly manager of refining, for Aurora Gasoline Co., Detroit, has joined Vickers Petroleum Co., Wichita, Kan., as vice-president of manufacturing. He succeeds **A. M. (Bob) Schrepfer,** who has retired.

GLENN F. BISH has been elected vice-president and manager of domestic production for Ohio Oil Co., Findlay, Ohio. He succeeds **Fred E. Smith,** who is retiring after 45 years with the company. Bish has been assistant domestic production manager since 1954; before that he was manager of the Tulsa production division.

G. F. Bish

B. W. Nichols

BERT W. NICHOLS is the new treasurer of Standard Oil Co. (Ohio), with headquarters in Cleveland. He succeeds **E. W. Allgower,** who retires after 42 years with the company. Nichols joined Sohio as a service station salesman in 1931, and in 1945, became manager of insurance and claims, and assistant secretary of the company. He has been assistant treasurer since 1955. **Charles S. Allen,** formerly cashier in the Cleveland home office, succeeds Nichols as assistant treasurer.

SYDNEY T. ELLIS is the new president of Petro-Tex Chemical Corp., in Houston. He was formerly executive vice-president of Chemical Solvents Corp.

S. T. Ellis

P. Robertson

PAUL ROBERTSON has joined Signal Drilling & Exploration, Inc., as drilling engineer and administrative assistant at Casper, Wyo. He will assist the company's drilling superintendent, **G. E. Stevens,** with technical drilling problems and administrative duties. For the past three years, he has been district drilling engineer at Midland, Tex., for Pan American Petroleum Corp.

RALPH SIMON transfers to California Research Corp.'s La Habra (Calif.) laboratory as senior research engineer in solvent drive processes, producing research. He was formerly in the process and plant design division of the company's Richmond (Calif.) laboratory.

ROBERT T. PARRISH has been appointed head of the employee relations group of Creole Petroleum Corp.'s New York office. He replaces **George T. Culp,** who is returning to Venezuela as industrial relations coordinator in Creole's office in Caracas. Parrish joined the company in 1948 as a training supervisor in the industrial relations department in Caracas. In 1951 he transferred to western Venezuela, and in 1957 was named district industrial relations supervisor in La Salina.

FRANK R. DENTON, vice-chairman, a director, and chief executive officer of Mellon National Bank & Trust Co., Pittsburgh, has been elected a director of Gulf Oil Corp. He succeeds **Dr. Joseph E. Pogue,** who has resigned as a director and petroleum consultant to devote more of his time to personal affairs. Pogue was elected vice-president in charge of the petroleum department of Chase National Bank, New York, in 1936. In 1949, he became a director and petroleum consultant for Gulf. The following year, he became an adviser to Chase on matters of petroleum and natural gas. Denton is also a director of Westinghouse Electric Corp., Jones & Laughlin Steel Corp., Pulman Inc., and Diamond Alkali Co.

R. N. COOPER, vice-president of Derby Refining Co., Wichita, Kan., assumes responsibility for the company's product supply and distribution. Cooper, with the company since 1932, will direct all product purchases for resale and manufacturing. **F. C. Boyd** becomes director of marketing. He joined Derby in 1929 as a territory salesman, and was most recently retail sales manager. Assistants to Boyd are: **Roy Winter,** northern division manager, Lincoln, Neb.; **Lloyd Poston,** southern division manager, Wichita; and **Dave Wasser,** head of asphalt and specialty sales, Wichita.

SEARCHLIGHT SECTION

(Classified Advertising)

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The advertising rate is $16.75 per inch for Equipment and Business Opportunity advertising appearing on other than a contract business.

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The rate is $28.00 per inch. Subject to Agency Commission.

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$1.60 a line. Minimum 3 lines. Box numbers count one additional line.

POSITION WANTED. Undisplayed rate is one half of above rate, payable in advance.

DISCOUNT of 10% if full payment is made in advance of four consecutive insertions of undisplayed ads.

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Send NEW ADS or Inquiries to Classified Advertising Division,
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Ada Oil Company requires the services of two sales supervisors thoroughly experienced in motivating and directing salesmen working with service station dealers. These opportunities, duties and salaries are not for trainees. Reply by letter only, confidentially outlining your experience, training, age and salary requirements to Ada Oil Company, Director of Personnel, P. O. Box 844 Houston 1, Texas.

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NEW YORK 36: P. O. BOX 12
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POSITION WANTED

Landman—Seasoned, 11 years experience in California and Rocky Mountain areas. Mature—age 41. Seeks opportunity with West Coast Independent Co. requiring ability in all phases of: leases, agreements, title work, public domain lands. Proven administrator. Will travel. PW-1598, Petroleum Week.

FOR SALE

For Sale—Portable Derrick-1 Oilwell Portable Derrick, Model 133 B with 10' x 46' 6½" x 26' 5½ width Sub-Structure with steel plate on bottom. Cap/500,000#. Height 133', assembled with taper dowels, derrick legs pivot into place from ground level. Excellent condition. Located in Corpus Christi, Texas, area. Price $15,000.00. Wm. H. Martin, 317 Santa Monica, Corpus Christi, Texas. Telephone Ulysses 2-6513.

Foamite—American LaFrance, single powder type, original sealed 50 lb. cans, our low price-$2.25/can, delivered. Foamite Generators, portable w/hoppers, unused $19.50 each. Gilbreth Co., 1211 Chestnut St., Phila. 7, Pa.

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ASSISTANT TO PRESIDENT

Large independent oil company with record of steady growth wants man preferably experienced with independent company to assist executive in overall company operation. Location Boston suburb. Excellent starting salary. Send resume in confidence to:

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Class. Adv. Div., P.O. 12, N. Y. 36, N. Y.

For Sale—Trailer Camp
$37,500
ELDER PORTA CAMP
Sleeps, Dines 28 Men

A 10 trailer integrated camp for complete mobile support of your exploration or mining program. 20,000 watt power supply. 2,000 gallon on-trailer water storage. Winterized, fully insulated, completely equipped, ready to occupy. Specifications and photos on request. Your inspection and appraisal invited.

Fox Oil Co.
Hardin, Montana

Doctor, Lawyer, Indian Chief . . .

What Role Will Import Controls Play?

MANDATORY IMPORT CONTROLS will be two months old next Monday. And already passersby, taking a look at the government's pink-cheeked baby, wonder if its daddy isn't planning just a little too much for his offspring at such an early age.

For it now appears that the doting father wants to raise his child as a policeman—ready to step in and regulate petroleum prices in this country if necessary—as well as an international statesman, ready to help "solve" foreign relations.

The wisdom of assigning either role to mandatory import controls is questionable. Certainly, both roles at once would be an unusually big assignment.

THE ROLE OF IMPORT CONTROLS in the field of international relations started last week with the government's decision to exempt from controls petroleum imports from Canada and Mexico shipped to the U.S. by overland transportation. This means that refiners in the Puget Sound area, which have expressed a strong preference for Middle East and Far East crude, can now import Canadian oil without quota limitations.

The move was not unexpected. President Eisenhower said when he first ordered mandatory controls that the U.S. has, with Canada and other American republics, a "joint interest in hemisphere defense."

That could be taken to mean that some other exemptions may be granted. And chances are if they are not forthcoming, Venezuela is certain to object.

Venezuela's top government oil official, Dr. Juan Pablo Perez Alfonzo has strong ideas on what role his country should play within the pattern of U.S. import controls (PW—May1'59,p19).

If other American republics receive exemptions, or special treatment, what about the Middle East countries? The career of mandatory import controls as an "international statesman" may prove short-lived.

THE ROLE OF PRICE POLICEMAN for import controls, a growing number of industry officials feel, may prove to be dangerous. This week Robert G. Dunlop, president of Sun Oil Co., commented: "It would be a serious mistake to regard this (policing) action as a meaningless gesture . . . If past experience is a true guide, it is virtually certain that price-policing will become but a first step in the extension of government control over the oil business."

The Sun official strongly recommends "abandoning the current unsound methods of seeking to restrict oil imports and turning to our traditional tariff policies to achieve a solution."

DIRECTIONAL DRILLING • FISHING & CUTTING • ELECTRICAL WELL SERVICES • OILFIELD SUPPLIES • EXPORT TOOLS & SERVICE

HOMCO

DIRECTIONAL DRILLING TOOLS AND SURVEYING EQUIPMENT

designed for the job you have in mind

If you pick the right man for the job and give him the proper tools you know that the job will be done right. Homco does just that. Every Directional Drilling job that Homco is called on to do receives the attention of a group of experienced men who know their jobs. They choose the man and the tools and keep in constant touch with him until the job is completed.

The tools you see here are representative of the complete line available at Homco — the most complete line of Directional Drilling tools in the industry.

SIDETRACKING
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WRITE FOR TECHNICAL INFORMATION AND BROCHURES

HOMCO has it!

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HOUSTON OIL FIELD MATERIAL COMPANY, Inc.

WORLD'S LARGEST INDEPENDENT OILFIELD SUPPLY AND SERVICE ORGANIZATION

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Houston, Texas (Headquarters)
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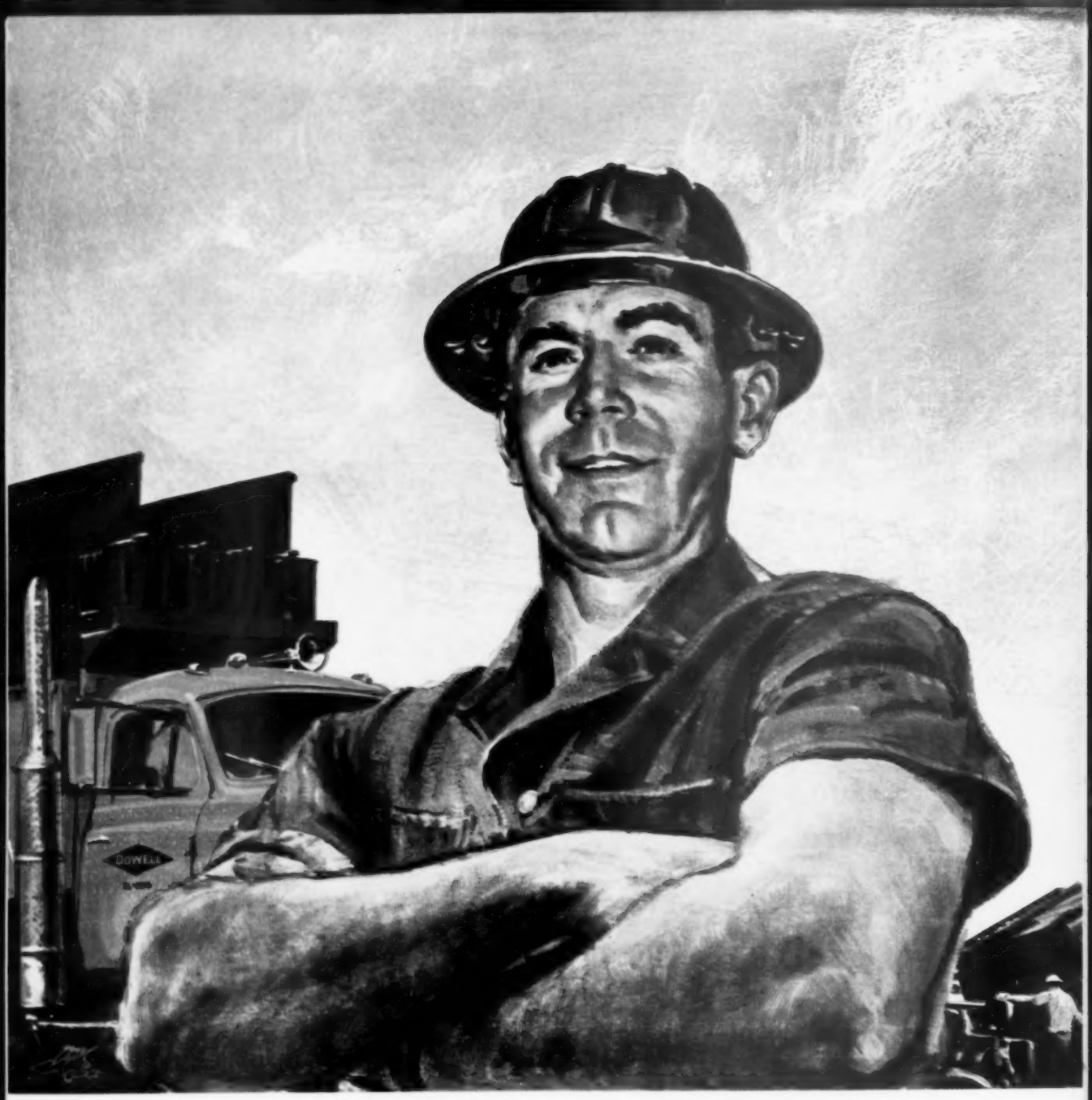

MORE POWER PER POUND with Dowell equipment. When you specify Dowell for your acidizing or fracturing treatments you get more power, pound-for-pound, than you do from any other service company. Dowell designs its pumping, mixing and blending equipment to save you money. Headed by the compact, powerful Allison aircraft-engine pumper, Dowell's equipment is streamlined to keep your costs as low as possible—consistent with the power you need for your well treatment. If your job calls for small volumes, minimum power, you don't have to pay for a lease-full of equipment. And when the job calls for big power, you get it without unnecessary bulk or weight from Dowell. This variety of versatile, specialized equipment is one more reason why Dowell offers you most value per treatment dollar. Dowell, Tulsa 1, Oklahoma.

Services for the oil industry DOWELL

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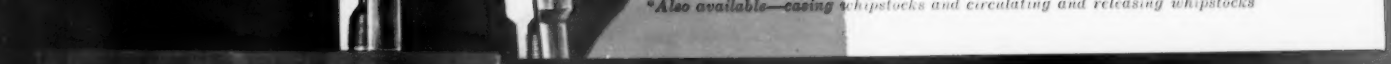

*Also available—casing whipstocks and circulating and releasing whipstocks